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ABSTRACT

Designed to provide an overview of the nature and focus of activity in the fledgling videotex industry in the United States and Canada, this updated and extended report presents in-depth reviews of 26 projects which reflect the involvement of such industries as publishing, retailing, agriculture, banking, other financial intermediaries, information processing, broadcasting, and communications. Reviews were compiled from interviews conducted with one or more actively involved participants in each project, published information, and materials forwarded by respondents. Information provided for each project includes sponsor(s), technology, location, current status, investment, anticipated future services, subscriber base, availability, content providers, system characteristics, pricing, content information, and delivery system. Technologies used include internally developed viewdata systems, standard telephone lines, French Antiope-based teletext system, home terminals, Telidon-based viewdata and teletext systems, British Ceefax teletext system, and AT&T's Presentation Level Protocol. Some projects specialize in information for a specific audience, e.g., farmers, lawyers, or business men, while others offer a wide range of services which may include local and community information; entertainment guides; consumer information and advice; shopping, banking, and travel services; computer assisted instruction; and video games. Brief notes on other activities in the field are included. (LMM)

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Report Number: OCLC/OPR/RR-83/8
Date: 1983 October 28

Research Report Prepared for OCLC

on

Videotex Project Reviews II

by

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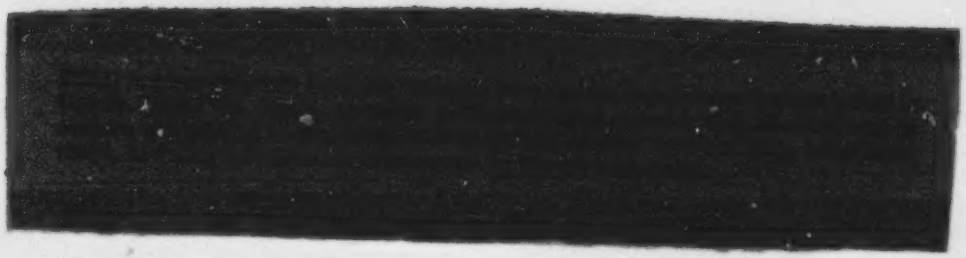

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by R.E. Widing II and W.W. Talarzyk
Report Number: OCLC/OPR/RR-83/8
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[1] Online Public Access Catalogs: The User Interface
by C. R. Hildreth
Product Number: 801
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by D. J. Sager
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1. INTRODUCTION

This effort represents an updating and extension of a previous paper written by the authors entitled "Viewdata Project Reviews" (W. Wayne Talarzyk and Robert E. Widing II. Working Paper Series, College of Administrative Science, The Ohio State University WPS 82-16: 1982). Three teletext projects have been added to the viewdata complement of profiled firms to more fully depict videotex activities. While not a comprehensive examination of the videotex industry, the depth of treatment given each project should provide the reader with an understanding of the nature and focus of activity in the field.

These reviews were compiled from interviews conducted with one or more actively involved participants in each project, published information, and materials forwarded by respondents. The content can be considered accurate as of the second quarter 1983. However, in early October 1983, some updates were added for important announcements or changes. These additions are in parentheses and begin with "Note." To help reduce the number of potential errors, most respondents edited their organization's profile for errors of omission and commission either by telephone or mail. The authors trust that most mistakes were identified and corrected in this process.

The audience at which this report is directed has some depth of understanding of the videotex industry. The purpose of the report is to provide the reader with a frame of reference for past, present, and projected future activities of the organizations reviewed. The paper is not critical or evaluative in nature; rather, the authors have simply attempted to provide objective information that is factual and descriptive.

The cooperation and openness of the respondent group were remarkable. In some instances, the respondents were asked to undergo multiple interviews. Their patience was very much appreciated. As a group, the interviewees can be described as extremely knowledgeable, and their willingness to share their expertise and insights is reflected in the following pages. The authors give their wholehearted thanks for the time and support provided by each respondent.

2. PROJECTS AND FIRMS REVIEWED

(1) ACRES and AG-COM; Ohio Farm Bureau and American Farm Bureau

Projects

ACRES (Agricultural Communication and Resource System) and AG-COM

Cosponsors

American Farm Bureau Federation and the Ohio Farm Bureau Federation. Currently, 13 other states are involved with the American Farm Bureau in developing similar systems. They include Michigan, Illinois, Indiana, Iowa, Idaho, Missouri, Florida, Arkansas, Georgia, Virginia, Colorado, and South Carolina. Ohio, Michigan, and Illinois are actively marketing a system now; the others are in various stages of development (March 1983).

This review will concentrate on the Ohio Farm Bureau's ACRES and AG-COM projects.

Technology

Internally developed viewdata system

Location

Host computer and center is in Columbus, Ohio.

Current Status

The publicly offered system "officially" began operation on October 1, 1982. A pilot project began on October 1, 1981, and ended on October 1, 1982. However, some paying customers were added in September 1982.

Number of Subscribers

Approximately 450 subscribers nationwide (February 1983), and 125 on the system in Ohio (March 1983).

Projected Growth

In Ohio, there are 55,000 full-time farmers. Of this number, a survey indicated that 25,000 would adopt an agriculturally oriented videotex system. Nationally, several hundred thousand are expected to adopt.

Investment

Ohio Farm Bureau--$30,000 in hardware costs (not counting software or personnel expenses)

Services

There are over 200 different categories of information on ACRES. Major categories include commodity futures quotes, AgriVisor marketing advice, cash prices, custom weather forecast (local, state, national, and international), legislative information, classified ads, and an "Ask Alan" interactive column for new item requests and computer or marketing advice.

AG-COM is offered at half the price of ACRES and provides access to all information, except commodity futures quotes, cash prices, and marketing advice.

Anticipated Future Services

It is expected that gateway banking and shopping services will be offered, but they are "at least a year away."

Content Providers

AgriVisor (Illinois Agricultural Assoc.), American Farm Bureau Federation, Commercial Weather Service (Flint, Mich.), Ohio Agriculture Marketing Assoc., all four divisions of the Ohio Farm Bureau, and the USDA wire. Brokerage house services are expected in mid-1983.

Project Goals

- Provide farmers with quicker access to marketing information.
- Provide greater quantity and more detailed information than alternative sources.
- Provide a vehicle for further developments, such as agriculturally oriented shopping.

System Characteristics

- Technology. ACRES originally used a variant of Tandy's videotex protocol. Software was further developed by the American Farm Bureau Federation and continues to undergo modifications. "Will stay with it for now; software will be made compatible with other protocols as necessary."
- Delivery Vehicle. Standard phone lines with a WATS-line option for high-volume users.
- Pilot project used 20 Radio Shack terminals.
- User Equipment Required. Terminal or personal computer and modem. The Ohio Farm Bureau will not provide this equipment, but it will recommend units that also fit a farmer's other business needs. Nearly all terminals and personal computers are compatible.
- Number of Pages. Over 700 pages that are updated from every 10 minutes to once per week. "Possibly 2,000 pages by next summer" (1983).
- Host Computer. 256K Radio Shack Model 16 with some modifications.
- Number of staff. Two in Ohio.
- Graphics. Graphic display (8-color graphics) is in a demonstration mode for terminals with videotex capabilities. Subscribers with a personal computer, however, can build their own graphs from text provided from ACRES (e.g., bar graphs from historical price data).

Pricing

ACRES--$50 per month or $540 for a yearly contract; AG-COM--$25 per month. These prices are based on unlimited usage. The respondent felt that true market value at the projected volume level is about $35 for ACRES. In addition, teaching institutions, such as vocational schools, technical colleges, and agricultural institutions, are offered ACRES for $300. (This price does not include the advisory section.)

Market Profile

- Tend to be younger--average age approximately 35
- College educated
- 80% are grain farmers (versus livestock or other ventures)
- Greatest adoption percentage comes from those with over $100,000 in gross farm income. Tend to be medium to large farmers
- Highly marketing-oriented group with formal training

Respondent Comments

- The system offers tremendous potential to improve farm income by balancing the information advantage that institutional buyers currently have over farmers. Ohio farmers in the pilot project said that ACRES added $1,200 to $17,000 (from October 1981 to December 1982) to their profits.

- Farmers' awareness of computers and their potential remains discouragingly low. Farmers will spend a hundred thousand dollars on a combine, but resist buying a relatively low-cost computer. They need to become comfortable with the idea of using a computer.

- From a competitive standpoint, the window to the agricultural marketplace is closing for those who haven't undertaken projects or tests. The respondent felt that "we are ahead of the competition right now."

- ACRES subscribers are also entitled to discounts on hardware and software for most major brands of personal computers. Major manufacturers provide these discounts, which range from 12% to 16%.

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(2) Bank-at-Home; Financial Interstate Service Corporation

Project

Bank-at-Home

Firm

Financial Interstate Service Corporation (FISC)

Background

In the beginning of 1982, FISC became a privately held corporation to avoid regulatory restraints under the Bank Services Act. Before this change, FISC was named the United American Service Corporation. Bank-at-Home was originally a joint venture of CompuServe, Radio Shack, and United American Service Corp. (Note: Bank-at-Home was discontinued as of the end of September 1983. First Tennessee Bank, which has assumed control of United American Bank and, subsequently, FISC, expects to reenter the in-home banking field during 1984. Reasons for dropping the service include poor user response and software problems.)

Current Status

The original Bank-at-Home was announced in October 1980 and commenced operations in December 1980. The service is currently offered in Memphis and Knoxville in conjunction with United American Bank.

Technology

Internally developed viewdata system

Subscriber Base

Approximately 60 total in Knoxville and Memphis. (Note: The 600 total previously cited was reported to be greatly overstated.)

Services

Services include interest rate information, bill payment, funds transfers between accounts, electronic statement of account, and balance inquiry.

- A service entitled The Business Manager has been developed for the small- to medium-size business that is not large enough to afford a cash manager. It will provide firms with their daily cash status and the highest possible yields for any surplus funds. The Business Manager will also integrate financial services with other business services, such as payroll, accounts receivable and payable, word processing, and, in the longer term, inventory control. The Business Manager is expected to be available in the first quarter of 1983.

- A broad range of other videotex services is being considered.

Current Focus

The current goal of FISC is to franchise Bank-at-Home to other financial intermediaries.

Franchise Costs/Information

$50,000 nonexclusive fee. If part of a holding company, there are additional fees for each bank in the holding company. An exclusive franchise fee can be negotiated, and the fee varies from $75,000 to $100,000 or more depending on the market. (These prices include software, implementation consultations, and market information gained from FISC's Tennessee experience.)

Participants

The Shawmut Bank of Boston is participating through the Information Delivery Society with FISC software and began a pilot test with approximately 100 participants in January 1983. "It is expected that Shawmut will offer a supermarket of services to consumers." (FISC is currently in negotiations "with up to a dozen other banks.")

Delivery System

Phone lines. CompuServe is used to distribute Bank-at-Home through its packet-switched network. It is not necessary to subscribe to CompuServe, however, to receive Bank-at-Home.

System Characteristics

- The system was developed in-house. However, FISC is "strongly looking at the Prestel protocol." Expect announcement in early 1983.

- No graphic capabilities currently available.

- FISC host computer manufactured by IBM.

- Equipment required: any personal computer, such as the TRS-80 color computer (or business machine with read-only memory), and a modem that can communicate through the CompuServe Information Service.

Pricing

Charges are determined by each bank. United American currently charges $5.00 per month for services and does not have transaction charges.

Other Activities

FISC and CompuServe have begun an information program called the Information Delivery Society (IDS). The IDS is designed to be a "stepping stone" for institutions desiring to be involved in videotex activities as they relate to banking, but FISC and CompuServe are not yet prepared to commit to a full offering to the general public.

IDS is available at two levels of involvement:

1. For $6,000, the subscribing firm gains access to seminars and information gained from the ongoing FISC project in Tennessee. It is expected that other test results will be available to subscribers as firms involved in tests and publicly offered services enroll in the IDS.

2. For $12,000, the subscriber will not only gain access to test results, seminars, and so forth, but will also be provided access to FISC's software and consulting services for the development of a pilot test.

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Knoxville, Tennessee 37901

(3) BancShare; The Huntington National Bank

Project

BancShare

Firm

The Huntington National Bank

Technology

Internally developed viewdata system

Location and Availability

Home office and host system is in Columbus, Ohio. Huntington, however, has over 130 offices statewide and all Huntington customers may receive BancShare. (Note: Marketing efforts have been primarily focused on Columbus. In the fall of 1983, marketing efforts were expanded to include Cleveland.)

Current Status

BancShare is not a test project; it is a "live," commercially offered service. Public service began in October 1982.

Subscriber Base

Undisclosed

Distribution

- Huntington is distributed through the CompuServe network. To receive BancShare, a customer must first become a CompuServe subscriber.
- Huntington will also provide subscribers with a Radio Shack Videotex terminal if needed.

Investment

Undisclosed

Pricing

Households are charged $4.00 per month, plus transaction fees and the CompuServe network charge (see CompuServe). Corporations are assessed $15.00 per month, plus the same additional charges listed above. Customers may also lease a Radio Shack Videotex terminal for an additional $10.00 per month. At the end of one year, the customer owns the terminal.

Services

Bill paying, transfer funds between accounts, loan/account status, information on current interest rates, bank news of products and services, and a monthly feature article. In addition, BancShare features a feedback service allowing for communication between the bank and its customers.

Business customers may access Huntington's new Cash Management System (March 1983) through BancShare, as well as through other means. Business customers will also be able to transfer funds nationwide beginning in the second quarter of 1983.

Future Possible Services

Checkbook reconciliation, tax services, household customer wire funds transfer, initiation of loan applications, and transfers to buy other bank product/services are expected to be offered some time in the future.

System Characteristics

- Host Computer. Burroughs 4800
- Software for the system was internally developed by Huntington and CompuServe.
- Staff Size. Currently 1 to 2 full-time persons.
- BancShare can be used in 300 cities nationwide for the cost of a local phone call. Huntington will pursue out-of-state markets as interstate banking restrictions are reduced. However, Huntington has been opening accounts for out-of-state customers who have CompuServe and want bill-paying services, such as those offered by BancShare.
- Security. Two levels of security exist for BancShare--an ID number and a password. The ID number must also match up with a separate CompuServe access code number to gain entry to the system.
- The system employs the hierarchical, menu-tree search mode.
- Virtually any personal computer (or "dumb" terminal) and modem can be used to access BancShare.
- The customer must supply the in-home equipment cited above.

- Currently, information is transferred on a batch basis. BancShare will eventually be fully integrated into Huntington's online system.

- For additional information on access and the network, see CompuServe.

Comments

- Huntington chose to work with CompuServe due to CompuServe's extensive array of financial services and information libraries. "CompuServe's current and future financial offerings provide good synergy for the Huntington."

- Due to the relatively low investment costs, Huntington decided to go directly online rather than undertake consumer tests. "The test would cost almost as must as going online, and we'll receive better information (from the live project)."

- Huntington does not expect to make a profit in the near term, but plans to stay with the project for several years, regardless of the profitability picture.

- The number of customers needed to reach operating profitability was estimated to be a thousand.

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(4) BISON; A.H. Belo Corporation

Project

BISON (Belo Information Systems Online Network)

Firm

A.H. Belo Corporation, publisher of The Dallas Morning News.

Technology

Internally developed viewdata system

Background

BISON was initially market-tested in the Park Cities (Dallas) project, in conjunction with Sammons Communications and Dow Jones and Company. Belo's involvement with the Park Cities project began in October 1980 and ended in May 1982.

A limited public offering was also made in July 1981 through a self-managed, telephone-based system. The subscriber base was held to 150 subscribers, each of whom paid $10/month. This system was again opened to the general public in April 1982. The subscriber base grew to 200 accounts by May 1982. At that time, Belo decided "that the time was not right" for videotex services geared to the general public. BISON was withdrawn from the Park Cities project, and the database was frozen for the telephone-based system. While the 200 subscribers already on the system continue to receive BISON, it has been useful only for electronic mail and demonstration purposes.

The system offered a 20,000 page database with information drawn from information providers, including AP, UPI, Reuters, and The New York Times News Service. Information provided included business and financial reports, airline schedules, entertainment guides, a restaurant directory, and local news, sports, features, and other reports from The Dallas Morning News.

Current Activity

A new videotex system is expected to be offered to the public during 1983. Belo is currently conducting negotiations with Dallas-based banks with the expectation of jointly developing and marketing the new service. Belo's decision to fully resume its videotex activities was largely based on the significant growth in the personal computer market and cost declines for equipment that work to make videotex services increasingly viable.

Services

The new system's characteristics and the content to be provided are still largely in the planning stages. The initial database, however, is expected to be significantly smaller than that offered in the original BISON system.

Services will include news, features, business/financial reports, and other information resources to be provided by Belo business units, including The Dallas Morning News. Transactional services will be limited to in-home banking activities initially; retailing services will probably be added at some time after the initial offering. Other content will include advertising and airline schedules, "but a lot depends on the eventual venture partners."

Pricing

The new system is expected to be priced in the $10/month range, although the $10/month price in the original BISON system was lower than the cost to supply the service. Other new revenue sources, however, such as advertising and transaction fees, will be available to the system operator(s).

Delivery Vehicle and Geographic Location

The new system is expected to be restricted initially to the Dallas area and delivered through the local, regular dial network.

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(5) Channel 2000; Bank One and OCLC Online Computer Library Center, Inc.

Project

Channel 2000

Cosponsor

Bank One Corporation and OCLC Online Computer Library Center, Inc.

Technology

Internally developed viewdata system

Information Providers

Academic American Encyclopedia, Bank One, Columbus Regional Information Service (Chamber of Commerce), Computer Utility for Public Information (Com-Tility), Department of Early and Middle Childhood Education (College of Education, The Ohio State University), and Public Library of Columbus and Franklin County.

Location

Columbus, Ohio

Current Status

Test commenced September 29, 1980; test completed December 30, 1980. Banking services went online one month after test commenced.

Investments

Approximately $250,000 and another $500,000 "in product."

Test Size

176 units placed in homes. OCLC placed 76 units in homes via a quota sample. Bank One placed 100 units in the homes of firm-friendly individuals.

System Characteristics

- Viewdata system delivered via telephone
- 16-button keypad
- OCLC provided all equipment except TV and telephone, the latter of which was sometimes provided by Bank One
- OCLC developed the decoder and designed the software for all services, including banking services
- Host computer a XEROX/HONEYWELL Sigma 7
- Hierarchical, menu-tree searching system
- One hour of training given to participants
- Color, but no graphics
- Approximately 2 million screens of information

Pricing

No charge to test participants. Post-test consumer surveys indicated that 17% of the participants would be willing to pay $10.00 to $15.00 per month for any six services they most desired, individually selected from a hypothetical list. (The list included services not provided in the test, i.e., security services, in-home computer, household energy control, and so on.) (A copy of the project results has been widely disseminated.)

Services

- 32,000 article encyclopedia (Academic American Encyclopedia) with articles listed by title, topic-subtopic, and indexes citing subjects, keywords, names, places, and references
- Public information
- Community calendar
- Children's reading and math exercises
- Home banking, including bill paying, interest rate schedules, and account information
- Bookmark--Return to page desired after logging on
- Browsing capabilities
- Limited electronic messaging; OCLC to test participants and interactive library to OCLC messaging

- 300,000 holdings of the public library available with author and title indices
- Up to 25 books at a time could be checked out through the library "Books-By-Mail" service

Current Activities

OCLC continues to participate in home information system technology through a number of projects conducted by the Office of Research. For example, a new form of videotex technology, called audiotex, permits the videotex user to speak directly with a reference librarian or information specialist at the videotex service center during a videotex session when assistance is needed in accessing informational databases. Audio communication takes place over the same phone line used for the videotex session. OCLC uses the name ViewTel for its prototype audiotex system.

An additional activity of the OCLC Office of Research in this area is the careful tracking of the videotex industry on behalf of the library community, with the goal of influencing system design and usage by the promulgation of the library perspective on information storage, transmission, and access. At this time, no major field tests on the order of Channel 2000 are anticipated. Several patents have been applied for in connection with the ViewTel prototype audiotex system.

Bank One has recently announced their involvement in VideoFinancial Services (see VideoFinancial Services).

Contact Persons:

Firm: OCLC Online Computer Library Center, Inc.
Name: Mark Bendig
Phone Number: (614)764-6072
Address: 6565 Frantz Road
Dublin, Ohio 43017

Firm: Bank One Corp.
Name: John Russell
Phone Number: (614)463-5987
Address: 100 E. Broad Street
Columbus, Ohio 43271

(6) Chase Manhattan Bank; Consumer Home Banking Program

Firm

Chase Manhattan Bank

Project

Consumer Home Banking Program

Test Site

New York City metro area

Cosponsors

None

Information Providers

None besides Chase in project

Transmission

Phone lines

Current Status

- o Pilot program is operational
- o Apple computer provided by user
- o 200 participants
- o Uses the ASCII protocol

Services

Bill paying, account information, transfer between checking and savings accounts, financial record-keeping system

Service Expansions

Unannounced--consider more fully after test

Pricing

- Use test to aid in pricing decision
- No charge to test participants except for standard Chase checking account charges (minimum balance or monthly fee)

Project Objectives

- Test viability of in-home banking services
- Position for market developments

(7) CompuServe Information Service; CompuServe, Inc.

Firm

CompuServe, Inc.

Parent

H&R Block

Technology

Internally developed viewdata system

Project

CompuServe Information Service (CIS)

Completed Projects

On June 30, 1982, the Newspaper Information Experiment (with the Associated Press and 11 major newspapers) concluded. CompuServe also successfully completed a test with the Qube cable system in transmitting videotex information to a select number of Qube subscribers in Columbus, Ohio.

Location

CompuServe's headquarters is located in Columbus, Ohio.

Availability

CompuServe can be accessed in over 300 cities with a local phone call and from anywhere through a long-distance phone call.

Mode of Transmission

Telephone lines using packet-switched networks. CompuServe uses Tymnet, Telenet, and its own communication network.

Project Status

Ongoing business

Customer Base

Over 37,000 subscribers as of January 1983. Average monthly growth rate is approximately 3,800 new subscribers.

Background

CompuServe is a computer services company that began the CIS to utilize the off-peak time (evenings and weekends) of its computers and communications network.

Services

The CompuServe Information Service currently includes six major categories of information:

(1) Home Services--includes news from the Associated Press, the Canadian Press, and major daily newspapers, consumer magazines, electronic mail/messaging, electronic games, reference services, and an array of educational material;

(2) Financial Services--includes financial analysis newsletters, 40,000 stock listings with background information, real-time stock quotes, and commodities information/prices;

(3) Personal Computing Services--includes programming aids, a software exchange service, computer program sales over the system, file storage, and computer clubs;

(4) Professional Services--flight planning, weather service, and aviation news for pilots; medical information; agriculture/agribusiness; legal services and information; medical services; environment/natural resources;

(5) CompuServe User Information--instruction section for system operation and a "What's New" section to announce new developments;

(6) Subject Index--a menu or keyword searchable index of all CompuServe services and their page location.

Major new projects and services added since the last review (February 1982) include:

(1) Putting the entire 20-volume World Book Encyclopedia online. World Book terminated this project in March. (Note: World Book has withdrawn from CompuServe and the Grolier electronic encyclopedia has been added to CompuServe's list of services.)

(2) Adding a significant number of online travel and reservation services, including the Official Airline Guide.

(3) Expansion of the interactive games area.

(4) Building an extensive news product consisting of wire services, major newspapers, magazines, and so on.

(5) Expanding the home banking network. First Interstate Services, Inc., continues to offer service to some United American Bank customers through the CompuServe communications network. In addition, the Shawmut Bank of Boston and the Huntington National Bank in Columbus, Ohio, have recently begun offering in-home banking using the CompuServe network.

(6) Expanded in-home shopping with Comp-U-Card's Comp-U-Store.

System Characteristics

- Customer must own either a terminal or personal computer and a modem.
- CIS "access" package is available at Radio Shack stores, other computer retail outlets, and major department stores.
- All major brands of personal computers and most terminals can be used with CIS.

Pricing

CIS access package for personal computers available at Radio Shack for $29.95 ($19.95 for terminals). Other outlets offer CIS at a suggested retail price of $39.95. (At this price, additional start-up hours are given to the buyer.)

The hourly usage rate is $5.00 during nonprime-time hours (evenings, weekends, and holidays) and $22.50 during working hours. Other product surcharges are assessed where appropriate (e.g., some financial services).

Investment

Since the system was already in place, investment costs were relatively small. CIS is reported to be operating at a profit.

Project Objectives

- Be positioned competitively when the field "takes off"
- Provide quality, innovative, and competitive services

CompuServe feels that the growth and development of CIS is in line with its overall corporate objectives.

Contact Person: Richard Baker
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Address: CompuServe, Inc.
5000 Arlington Centre
Columbus, Ohio 43220

(8) Comp-U-Store; Comp-U-Card International, Inc.

Firm

Comp-U-Card

Owners

Federated Dept. Stores, Equitable Life Assurance Society, Merrill Lynch, Jack Eckerd Corporation, Reader's Digest, and a prominent group of private shareholders. (Note: Comp-U-Card has filed a public offering of 1.25 million shares, which are expected to yield between $21 and $25 per share. Comp-U-Card expects to raise between $27 and $31 million from the offering.)

Projects

Here is a brief overview of Comp-U-Card's activities:

(1) Comp-U-Card--pricing and purchasing service; two million members nationwide access database over toll-free telephone lines.

(2) Comp-U-Store--teleshopping through home terminals, either directly or through various information services. Formerly named Comp-U-Star.

(3) Previous video-shopping channel activity, held in conjunction with six of Times Mirror's cable systems, is now replaced by Shopping by Satellite. This is also a video-shopping channel, a joint production with Metromedia, Inc. (not examined).

(4) Comp-U-Claim--computer online pricing source for casualty insurance companies accessed through terminals located in insurance offices around the country (not examined). (Faster than Comp-U-Card and generates reports.)

(5) Video Comp-U-Store--an interactive, computer/videodisc-based, in-store electronic shopping service. Consumers can access price and product information from the online database while viewing product pictures and/or audiovisual demonstrations. Consumers may then order merchandise directly from the system, pay for their purchase, and arrange for home delivery.

This service is designed for various types of in-store applications. The system can serve as a supplement to existing departments or as a replacement for marginal departments. It can be implemented as a self-

contained, kiosk-type store, such as Fotomat. Marketing plans call for placement of the Video Comp-U-Store in numerous retail locations by mid-1983.

Although not stated by Comp-U-Card spokespersons, it would not be surprising if this firm has long-term plans to develop a similar, full-motion, video-on-demand system for in-home use (not examined).

Project

Comp-U-Card

Technology

Telephone

Subscribers

Two million members (nationwide)

System Characteristics

- 60,000+ products available (prices generally 10-40% below retail).
- Member calls in for specific product, is provided the price, and, if inclined, may purchase. Delivery time is 2-3 weeks.
- In addition to providing shop-at-home services, provides comparison pricing and discount leverage for the consumer who prefers to shop at local retailers.

Project

Comp-U-Store (previously Comp-U-Star)

Technology

Internally developed viewdata system

Availability

Offered through THE SOURCE, CompuServe Information Service, Times Mirror Videotex Service, Dow Jones News/Retrieval services, and directly from Comp-U-Card.

Current Status

Ongoing business which commenced in 1979.

System Characteristics

- Users must first join Comp-U-Card to use the system.
- Comp-U-Store can be carried over any interactive system (using phone lines or cable).
- The complete line of Comp-U-Card products, with corresponding discounts, is available on Comp-U-Store.
- Comp-U-Store provides products, billing, and delivery to the user.
- Transmission is achieved through the CompuServe, Tymnet, and Telenet data networks.
- New system that is simpler for user was implemented in August 1982.
- Comp-U-Card, Inc., does not have a formal sales force; their family of services is actively sought out by system operators.

Services

Comp-U-Store offers these five distinct services:

(1) Direct Product Access--users knowing the product about which they need information can simply type in the name and model number; they will then receive product information and a price quotation.

(2) Shopping and Browsing--enables consumers to search for products in a product class. By typing in the product class name, brand name (if desired), price range and/or product features, Comp-U-Store will list all products meeting the shoppers requirements.

(3) Ordering--the user provides his address, quantity desired, and method of payment. A toll free number is available to handle any problems.

(4) Bargains--deeply discounted products are featured monthly in a special category.

(5) Comp-U-Stakes--a weekly auction is held in which users may bid on selected items.

Future Plans and Focus

- Continued expansion of service as part of a "bundling" of services by other system operators.

- Expanding use of service to corporations offering them as an employee benefit.

- Negotiating with retail chains and financial institutions regarding Video Comp-U-Store.

Comment

Comp-U-Card describes their business as one of providing information, not necessarily products. Subscribers use the system much more frequently for information search, as opposed to placing orders.

Contact Person: E. Kirk Shelton
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Address: Comp-U-Card of America, Inc.
777 Summer Street
Stamford, Conn. 06901

(9) Dow Jones and Company; Dow Jones News/Retrieval, Dow Jones Cable Information Services, Dow Jones Software, and DowAlert

Firm

Dow Jones and Company, Inc.

Technology

Internally developed viewdata system

Background

Dow Jones (DJ) has been heavily involved in videotex-like information services since 1974 and expects to invest over $50 million by 1990 in areas related to the electronic delivery of information and services. DJ has achieved a rather remarkable degree of control over its activities through extensive vertical and horizontal integration. Through sole ownership and joint venture activity, DJ has gained a high level of hardware and software development, marketing efforts, and systems maintenance and servicing. While independent content providers were added to the DJ product mix relatively recently and joint ventures consummated in other areas, DJ should continue to maintain autonomous control over strategic and tactical decision making in its videotex-related activities.

Four of Dow Jones projects, Dow Jones News/Retrieval, Dow Jones Cable Information Services, Dow Jones Software, and Dow Jones Radio 2 are examined below.

Project

Dow Jones News/Retrieval (DJN/R)

Market Focus

The primary market includes the investment/financial community in both residential and business/corporate sectors.

Subscriber Base

Over 60,000 subscribers as of February 1983. Subscribers are currently being added at a rate of 3000/month.

Current Status

Ongoing business since 1974.

Mode of Transmission and Availability

DJN/R is available in all 50 states and in selected countries overseas. DJN/R is delivered through DJ's own telecommunications network, over phone lines via packet-switched networks, and in a growing number of cable systems (see Dow Jones Cable Information Services). Phone-based subscribers may purchase subscriptions and the necessary access software at most retail computer outlets and from Dow Jones directly. Cable customers may subscribe through affiliated cable systems.

Services

DJN/R offers an extensive array of investment/business-oriented information and has more recently added a number of general-interest databases. The growing general-interest categories provide greater appeal to residential customers and should provide many of the core benefits to home-based cable subscribers. Listed below are a number of the content categories and content providers that have been compiled from the October 1982 DJN/R Summary of Services and through personal interviews.

Databases developed by Dow Jones

- News, features, and article summaries from The Wall Street Journal, Barrons, and the Dow Jones News Service--information is available from within 90 seconds of receipt by the DJ newswire to as far back as 90 days.
- Wall Street Journal Highlights Online--includes headlines, front-page articles, feature articles, editorials, and brief summaries of other news from The Wall Street Journal.
- Current and Historical Quotes--current quotes (15 minutes delayed) on stocks, bonds, warrants, options, securities, and so on from most exchanges. Historical quotes include the daily volume, low and close for the past year, monthly summaries to 1979, and quarterly summaries to 1978.
- Historical Dow Jones' Averages are available for industrials, transportation, utilities, and 65 stock composites.
- Free Text Search--enables the user to search the entire news database back to June 1979 using keyword, number, and/or date.
- Weekly Economic Update--provides a weekly review of important economic news and a preview of the month ahead.
- News/Retrieval World Report--continuously updated package of worldwide news.

- News/Retrieval Sports Report--scores, articles, schedules, statistics, and standings for most major sports at the professional, college, and leading amateur level (largely compiled from the UPI news wires).

- An "intro" section provides information about the service, including new database announcements, areas for database application, and "how-to" instructions.

- Master Menu--provides a listing of information/service categories and detailed access instructions.

Services and content provided by non-DJ sources

- Media General Financial Services complete database (see Mead Nexis for a description).

- Disclosure II from Disclosure Inc. (see Mead Nexis for a description).

- Corporate Earnings Estimator compiled by Zacks Investment Research, Inc. Includes earnings forecasts for over 2,400 firms compiled from 45 major brokerage firms.

- Weekly Economic Survey, compiled by Money Market Services Inc. from 40 to 50 of the nation's top financial institutions. The survey includes median forecasts of monetary and economic indicators.

- Wall $treet Week Online--transcripts available for the four most recent Wall $treet Week TV programs.

- The 20-volume, 28,000-article (9-million word) Academic American Encyclopedia, updated twice per year.

- Cineman Movie Reviews--movie descriptions and evaluations from Cineman Syndicate Inc.

- Comp-U-Store--Comp-U-Card's interactive shopping catalog, Comp-U-Store, was added January 4, 1983.

System Characteristics

- System is operational 22 hours per day, 7 days per week, including holidays.

- Most terminals, business machines (with read-only memory), personal computers, and modems are compatible.

- Graphic capabilities are currently limited to bar graph-type presentations.

- The system will be made compatible with the North American Presentation Level Protocol Standard (NAPLPS).

Pricing

There are three pricing plans available to users of the phone-based DJN/R service. (Note: Pricing information was updated using the DJN/R September 1983 price list.)

(1) The Standard Plan is designed for the lighter user. There is a one-time $50 charge for each location and higher per minute usage fees.

(2) The Blue Chip Plan is designed for the heavy nonprime-time (evening, weekends, and holidays) user. There is a one-time $50 charge for each location and a $100 annual subscription fee. Nonprime-time per minute rates are 33 1/3% less than standard rates.

(3) The Executive Plan is designed for the heavy prime-time user. There is a $50 monthly fee for each location. Prime-time and nonprime-time per minute rates are 33 1/3% less than standard rates.

Dow Jones has developed four per minute pricing tiers for its information/service offerings. Prices for each category vary according to prime time (6 A.M. to 6 P.M. weekdays) and nonprime time (6:01 P.M. to 4 A.M. on weekdays, weekends, and holidays). The prices listed below are for the Standard Plan; subscribers on the Blue Chip or Executive Plan should adjust the per minute rate according to the discounts cited above.

- DJ Business and Economic News--$1.20/minute prime time, $.20/minute nonprime time. Included are News, WSJ Highlights Online, and Free Text Search. (Note: the standard nonprime-time charge for Free Text Search is $.60.)

- Dow Jones Quotes--$.90/minute prime time, $.15/minute nonprime time.

- Financial and Investment Services--$1.20/minute prime time, $.90 nonprime time. Included are Disclosure II (plus access fee of $4 for one company search prime time, or $2 nonprime time), Corporate Earnings Estimator, Media General, and Money Market Services.

- General News and Information--$.60 prime time, $.30 nonprime time. Included are the World Report, sports and weather, movie reviews, encyclopedia, Wall $treet Week, Comp-U-Store, and Master Menu.

- Intro is free at all times.

Notes

These prices are for subscribers using the standard 300 baud rate (information is printed a little faster than most people can read). Those customers using the much faster 1200 baud rate will pay rates which are two times higher. The 1200 baud rate is beneficial to those subscribers who are able to store in-coming information in a personal computer (or any machine with random access memory--RAM) and then read it, rather than reading information directly off the screen as it arrives.

Project

Dow Jones Cable Information Services (DJCIS)

Background and Current Activity

Dow Jones conducted a small-scale cable test in conjunction with the Apple Computer Company in Las Colinas, Texas, during early 1979. This test led to an ongoing service offering in Park Cities, Texas, which began in November 1980. The Park Cities project has been conducted in conjunction with Sammons Communication Inc. Another participant, A.H. Belo Corp., also tested its BISON system (Belo Information System Online Network) in the project, but has since withdrawn (see BISON).

At this time, ongoing service is also offered in Clearwater, Florida, and Ft. Lee, New Jersey, both in conjunction with Vision Cable. Dow Jones has a financial interest in The Home Link Cable System in Princeton, New Jersey, and expects to develop it into the flagship system during 1983, showcasing far-ranging applications and innovations.

Other cities expected to receive DJ services in 1983 or 1984 include Southfield, Michigan (with Continental Cable, a system in which DJ also has a financial interest); Aurora, Denver, and Lakewood, Colorado; St. Louis, Missouri; Grosse Point, Michigan; Montgomery, New Jersey; Meckenberg City, North Carolina; Irving and Woodlands, Texas; and Chicago, Illinois.

Services

Services available to subscribers include all databases in the DJN/R service. The general interest services in the DJN/R were, to some extent, developed to attract residential customers in the cable markets.

- DJ expects to add a local newspaper "affiliate" in each market area to augment the news package.
- Banking services are not expected to be offered in the system package in the near term.
- Additional general interest applications and products are expected to be continually developed and added to the product mix.

Pricing

Dow Jones had adopted a tiered pricing scheme for its cable markets. Due to the relatively fixed communication costs of cable, regardless of usage rates, per minute charges are unnecessary.

- Currently (March 1983), there are two service tiers available--the Basic Tier and the Business/Investor Tier. The Basic Tier has two options:

  Option 1 offers general business news (i.e., Dow Jones News, Quotes, Economic Update, and the WSJ Highlights Online) from 5 P.M. to 9 P.M.

weekdays and all day on weekends/holidays, and general services/news (i.e., encyclopedia, movie reviews, sports and weather, and UPI headline news) 22 hours per day. The price for Option One is $22/month.

Option 2 offers all of the Option 1 services 22 hours per day. The price for Option 2 is $50/month.

- The Investor/Business Tier can be added to either Option 1 or 2 for $10/month. This Tier includes Media General Financial Services, Corporate Earnings Estimator, Weekly Economic Survey, Wall $treet Week Transcript, and Disclosure II.

- In addition, all cable customers will have the option to rent the RCA videotex terminal for an additional $5/month.

Project

Dow Jones Software

In October 1982, Dow Jones began offering Dow Jones software programs, which are designed for subscribers using a personal computer. Currently, four programs are available, including the Dow Jones Connector, Dow Jones Market Analyzer, Dow Jones Market Micro-Scope, and the Dow Jones Market Manager.

It is expected that this software, which is tailored to be used in conjunction with the DJN/R Service, will serve to increase both the subscriber base and usage rates. The DJ Connector enables the user to retrieve information with greater ease, while the other three packages provide for the analysis, manipulation, and control of information. The latter programs have been designed for the serious private investor and the professional investor/manager.

The programs were written by outside companies, but Dow Jones has been responsible for the concept design, manufacturing, and marketing of all software packages.

During the first half of 1983, these personal computers will be able to use Dow Jones software: Apple II, Apple II plus, Apple IIe, Apple III, and the IBM PC. Software for other personal computers will be made available throughout 1983.

Project

DowAlert

Firm

DowAlert is a service of the Dow Jones subsidiary, Dow Jones Radio 2, Inc. (Note: In July 1983, Dow Jones curtailed DowAlert activities. DowAlert's chairman reported that "we have concluded we cannot sell and retain the required number of subscribers to make the service self-supporting." DowAlert was replaced by DowPhone, a similiar service under testing that uses telephone

lines. However, subscribers in New York and Phoenix will continue to receive the FM DowAlert service while DowPhone undergoes testing.)

Current Status and Locations

DowAlert is available in Boston, Philadelphia, New York, Chicago, and Phoenix (as of March 1983). Los Angeles and San Francisco are expected to be added during 1983. While not a videotex service, DowAlert represents a closely related development in the area of self-tailored information services.

Description

DowAlert is a customized radio news service delivered over an FM broadcast signal. A specially designed Radio 2 receiver picks up the transmission. Users preselect information by programming the Radio 2 receivers with desired topic/company codes chosen from over 8,500 codes. DowAlert has the capacity for roughly 10,000 codes; new ones are added continuously.

Much of the news is gathered from the Dow Jones News Wire; it is then edited and sorted into concise reports and read over the air. Only the information predesignated by the client is picked up by the receiver and either transmitted "live" to the listener and recorded, or simply recorded on a standard cassette tape for later playback. Topic codes may be added or deleted fairly easily. No commerical messages are transmitted.

Pricing

The subscription fee is a flat $50 per month with no limit on the number of topic/company codes the subscriber can receive. The start-up fee is currently being waived.

Subscriber Base

"In the thousands at this time, with New York being an extremely successful market."

Private Networks

Private firms may use DowAlert to communicate with their clients. For example, "brokerage firms may wish to communicate fast-breaking information to clients through the service." Closed user groups of the above nature are seen by Dow Jones as having significant commerical potential.

Project:	DowAlert
Contact Person:	Art Clark
Phone Number:	1-800-352-5378
Address:	Dow Jone Radio 2, Inc. P.O. Box 300 Princeton, New Jersey 08540

Project:	DJ News/Retrieval, DJ Software, and DJ Cable Information Services
Contact Person:	Tim Turner
Phone Number:	1-800-257-5114
Address:	Dow Jones and Company P.O. Box 300 Princeton, New Jersey 08540

(10) EXTRAVISION; CBS Broadcast Group

Firm

CBS, Inc.

Business Unit

CBS Broadcast Group

Project

EXTRAVISION

Technology

French Antiope-based teletext system

Background

CBS has been actively involved in on-air testing of teletext systems since 1979. In April 1981, CBS began the testing of a teletext news, information, and captioning service over KNXT-TV in Los Angeles. The system, called EXTRAVISION, could be picked up at 15 public sites in the area. In March 1982, CBS expanded this activity with a 100-home test of its EXTRAVISION magazine in the Los Angeles Teletext Project (LATP).

The LATP was a cooperative project of CBS, CBS-owned KNXT, NBC, NBC-owned KNBC, The Caption Center/Los Angeles, public television stations KCET, and Telediffusion de France (TDF). KPIX-TV, a Group W station located in San Francisco, also was involved in the LATP. (Note: Each network actually conducted its own test with separate sample participants. TDF contributed much of the equipment used in the tests, which were held simultaneously.)

CBS's portion of the LATP ended in September 1982.

Current Status

CBS began broadcasting EXTRAVISION in April 1982. In order for viewers to receive the national magazine, however, local affiliates must agree to pick up and pass on the teletext broadcast. Further, decoders and keypads are not readily available, since U.S. manufacturers have had no potential market up to now. Therefore, CBS and NBC have elected to begin broadcasting their magazine

with no available audience in order to help solve this "chicken or egg" problem.

Location

CBS will continue to operate its teletext system from Los Angeles.

Content

CBS is offering a 100-page magazine that is continuously updated with 24-hour-per-day staffing. The magazine consists of two 50-page sections, one featuring hard news, the other soft content. The hard news portion includes headline stories, business and financial news, sports reports and scores, and national weather reports. The soft portion consists of a leisure section that contains feature stories, consumer tips, quizzes, games, horoscopes, recipes and the like. In addition, the Captioning Center of WGBH in Boston will provide closed captioning for some of CBS's prime-time shows.

CBS has a full-time editorial staff of 11 persons, including two graphic artists, devoted to its teletext magazine.

Standards

CBS will continue to use French Antiope-based equipment and software, which has been modified to conform to the North American Broadcast Teletext Standards. Despite reports to the contrary, CBS's broadcasts are NABTS compatible, although they are currently transmitting at the alpha-mosaic level. It is expected that the signal will be upgraded to the alpha-geometric level during summer 1983.

Affiliate Participation

Affiliates may participate at one of four levels with EXTRAVISION.

(1) Pass through the magazine during network time. Affiliates may do this at no or nominal cost; however, the magazine would not be available to users during the broadcast of an affiliate's non-network programming.

(2) The second level requires the affiliate to purchase a data bridge and multiplexer for about $40,000. This enables the user to access the national magazine 24 hours per day.

(3) At the third level, the local affiliate can generate its own magazine to augment EXTRAVISION. The cost is in the $75,000 to $80,000 range and provides for text and elementary graphics.

(4) The fourth level is an extension of the third, but it provides for enhanced production capabilities and superior graphics. This $150,000 to over $200,000 system differs from level three in a similar way that color TV differs from black and white TV.

CBS hopes that affiliates will choose to augment EXTRAVISION with their own local teletext magazines. A local magazine would add significant value to the national one by rounding out the content base with local weather, traffic reports, and news. CBS indicated that a January workshop on teletext was well attended by affiliates and that there was a strong, positive response from across the spectrum of affiliate size. The French firm VSA is expected to sign a contract with CBS for (affiliates') system operator equipment sometime after the April 4th inauguration of the system.

Content Providers

It is expected that many of the information providers and advertisers who participated in the CBS Teletext Project in Los Angeles will also elect to be involved in the national magazine. (There were over 60 information providers and advertisers in the test project.) Of course, new content providers are also anticipated.

Initially, there will be no cost to advertisers as there is no viewer base. Information providers will be paid for the content provided.

Consumer Equipment Availability and Price

The respondent indicated that a number of manufacturers are developing the necessary keypad/decoders and are expected to market this equipment. Cited were RCA, Sony, Sanyo, and GE.

The initial price for the keypad/decoder combination should be under $250. However, it is expected that prices will drop to the $100 to $150 level fairly rapidly. Further, teletext-equipped TV's should be introduced to the general public as an option for about $100 in the next several years. There will be no charge to the consumer for receiving national or local broadcasts.

Contact person: Lynne Grasz/Albert Crane
Phone Number: (212)975-8743
Address: CBS, Inc.
CBS Broadcast Group
51 West 52nd Street
New York, New York 10019

(11) Firsthand; First Bank System, Inc., and J.C. Penney

Project

Firsthand

Firm

First Bank System, Inc.

Technology

Home office is in Minneapolis, Minnesota. The test took place in Fargo, Valley City, and Wahpeton, North Dakota.

Current Status

Phase I--Field test began in May 1982 and lasted until the end of October 1982.

Phase II--This phase will be a live, commercially offered system. (Note: The system was sold to a consortium made up of J.C. Penney and local banks that will market a commercial service. First Bank will remain involved in the network as a local bank.)

Focus

The project's focus was on the farm/rural community. Participants were members of farm families and agricultural businesses. This focus provided a unique opportunity to blend both business and household services for one market.

Project Size

285 terminals

Pricing

"Contrary to other reports, there were no charges to test participants. Content providers were charged in some instances." All equipment was provided free to participants.

Services

- Interactive banking services included account information, bill payment, funds transfer, interest rate information, and statements.
- Farm-oriented services included bookkeeping, commodity prices, market strategies, weather, and other extension, service-type information.
- Other services included interactive shopping, home and family information, and news and sports.

Content Providers

Information and service providers included North Dakota State University, Top Farmer, B. Dalton, Daytons, J.C. Penney, Pillsbury, St. Paul Company, three local newspapers (Fargo, Valley City, and Wahpeton), and a number of local merchants.

System Characteristics

- Distributed via phone lines
- System used a "dumb" terminal manufactured by TRT
- Protocol--Intelmatique (French videopac system)
- Software--Developed primarily by the French firm Steria, with some developed by First Bank System
- Host Computer--Honeywell DPS-6
- Access Capabilities--could handle 40 calls at once
- Pages of information--5,000
- Staff size--10 full-time persons

Investment

"It's affordable."

Respondent Comments

- Interactive systems seem very well received when structured for the benefit of a market segment.
- Banks need to play a more aggressive role in developing interactive systems. Banks may be a by-product of videotex, as opposed to actively shaping their own future.

Report Number: OCLC/OPR/RR-83/8
Date: 1983 October 28

Contact Person: Stuart C. MacIntyre
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1400 First Bank Place East
Minneapolis, Minnesota 55402

(12) HomeBase; Citibank

Firm

Citibank

Parent

Citicorp

Project

HomeBase

Technology

Internally developed viewdata system

Project Status

Field test started in July 1981. Pilot began in May 1981. Currently, HomeBase is in the market-test phase.

Participants

Field Test: One hundred consumers drawn from current bank customers, and 100 employees using proprietary terminals; expanded to include owners of Atari personal computers. (Note: The market test currently includes approximately 1,000 participants.)

System Characteristics

- o Delivered via phone lines
- o Interactive using a full keyboard
- o Software designed by Citibank
- o Terminal designed by TTI (a subsidiary of Citicorp)

Investment

In excess of $2 million.

Services

Dow Jones news and information, account information (past 60 days), account transfers, record deposits (actually credited upon physical receipt), automatic bill paying at customer's specified date (up to one year in advance), standard bill paying at customer's discretion, stop-a-check service, account opening online, messaging (bank to "one" customer, bank to all customers, customer to bank), ability to access an online customer service operator, cash through presigned travelers checks, printout of all account activity at year's end.

Other Content Providers

Dow Jones News/Retrieval

Anticipated Future Service Expansions

General information services, home shopping, and an in-home brokerage service

Pricing

$10 in market test; public offering probably priced in the $20 to $30 range plus transaction costs. Those subscribers who have also elected to receive the Dow Jones News/Retrieval service pay $20/month.

Goal

- Explore the medium's possibilities as a vehicle for increasing market share.
- Citibank expects to make a decision concerning a full public offering during 1984.

Comments

- Citibank has a "good headstart towards integrating in-home banking with the main system."
- Terminals very user friendly: "Can figure out what to do without a single piece of paper."
- "Test is providing us with a good deal of information on consumer usage."

Report Number: OCLC/OPR/RR-83/8
Date: 1983 October 28

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(13) INDAX; Cox Cable Communications, Viewmart, and Homserve

Firm

Cox Cable Communications

Parent

Cox Broadcasting Corporation

Project

INDAX

Other Sponsors

(1) Homserv--Majority owned by American Can Co. Balance owned by Mutual Institution National Transfer System, Inc., (a subsidiary of the National Association of Mutual Savings), and private individuals.

(2) Viewmart--A wholely owned subsidiary of American Can Co.

Technology

Internally developed viewdata system

Information/Service Providers

- Four commerical banks--Security Pacific, Manufacturers Hanover, United California Bank, and California First.
- Two Savings and Loans--San Diego Federal and Home Federal.
- Retailers--National and local: three cited were Fingerhut, Musicland (owned by Pickwicke), and Wickes Department Stores.
- Information--INDAX, THE SOURCE, TV Data, and the Copley Press.

Location

San Diego, California (test site). Scheduled expansions include Macon, GA., Tuscon, AZ., Santa Barbara, CA., parts of New York City, Omaha, NE., New Orleans, LA., and Vancouver, WA.

Investment

$5 million to date, $10 million through spring 1983 (primarily by Cox)

Current Status

March 1981--In-house testing; May 1981--Prototype testing using "company friendly" individuals; Fall 1982--Formal project test (San Diego); June 1981--First public offering in Omaha ("as cable is laid"); San Diego expansion is scheduled to begin in fall 1983, contingent on experience gained up to that time.

Test Sizes

- 150 units placed in homes of volunteers who responded to direct mail solicitation
- 150 units placed in homes of nonvolunteers
- 300 homes without units (control group)

"Preliminary responses from test participants were very encouraging and instructive."

System Characteristics

- Interactive cable using a 20-button remote keypad.
- In-home equipment manufactured by OAK Industries.
- Keyboard may be added in the future as costs fall (three or more years).
- All in-home equipment owned by the cable company; customer is not required to purchase any hardware/software; no modifications to home television set.
- Approximately 100 miles of cable has been converted to two-way.
- Equipment designed and software developed by Cox.

Consumer Pricing

- Initial fee is expected to be $4 to $6 per month plus normal cable charge ($10.50).

- Banking services will be priced according to volume and type of transaction. Charges may be billed directly to consumer by the bank and will be competitive with current transaction fees.
- There are no charges levied on the consumer using retailing services until a purchase is made.
- Database access charges included in monthly fee.

Service Providers Pricing

- Cost to banks not settled--probably based on a combination of prescreen charges and the number of monthly transactions.
- Cost to retailers: 3% of sales.

Strategy

INDAX will utilize a penetration pricing strategy and probably operate at an initial loss. As subscribers grow in number and consumers become more aware of the concept, including services and the benefits offered, prices will rise to reflect true value and keep pace with inflation.

Focus

Broad-based approach focusing on mass consumer markets.

Roles

Cox Cable developed INDAX in early 1979.

- Homserve joined Cox to codevelop the banking services.
- Viewmart's primary responsibility lies in coordinating the efforts of both national and local retailers that will be featured on INDAX, although they, too, will retail over this system.
- Service providers were chosen for their high local or national profile. They are responsible for production costs, although Homserve/Viewmart offer technical expertise.

Services

Banking

(1) Account information
(2) Bill paying
(3) Fund transfers
(4) Bank information (interest rates, etc.)
(5) Product request (Visa, etc.)
(6) Other services are currently being evaluated

Retail

(1) Advertising channel called the "video channel."
(2) Cataloged product searching called "Direct Shopping." Under Direct Shopping, goods are cross-listed in a number of directories and can be searched according to product, store, or brand via a hierarchical menu tree.

Both methods entail shopping by interactive television on which consumers may view/search, order, and pay (via credit card) for goods over the system. Purchases can be delivered to or picked up by the consumer.

In addition, daily and/or weekly bargains, as well as special-event shopping, may be listed on separate product directories.

Household

- TV remote control
- Impulse pay-per-view
- Entertainment rating code authorization
- Computer games
- Daily television listing by channel provided by TV data
- Computer-aided instruction
- Local news and features provided by the Copley Press

Comment

INDAX considered and decided against offering home security and energy monitoring systems. Home security was rejected as "too expensive--no price advantage." Energy monitoring was rejected due to "insufficient interest by utilities."

Goals

- Position themselves for a developing market
- Further develop in-depth expertise in two areas, in-home banking and electronic retailing
- Write out a detailed business plan and define the concept based on test market results
- Franchise INDAX to other cable operators

Project Success Criteria

- Received positively by initial users
- Penetrate targeted market over the next three years
- Have the system pay for itself within three years
- Achieve synergy by adding new interactive services to existing entertainment offerings. By adding these new dimensions, INDAX hopes to attract "noncable markets," in addition to generating further revenues from current cable subscribers

Comments

- Currently storing information received by the customer, which is then forwarded to bank/retailer. An INDAX computer to bank/retailer computer interface for online communications is in development.
- Drawbacks, such as the lack of computer interfaces and the use of keypads (versus keyboards), will be eliminated as the implementation of improvements becomes cost effective.
- INDAX has been franchised to United Cable Television Corporation. They have a commitment to supply INDAX in their Oakland County, Michigan, franchise, and an unspecified number of others.
- Cox is concentrating on the proper positioning and packaging for INDAX; the technology issues have been resolved.
- Cox noted that content providers need to acquire the following competencies to successfully market a videotex system: (1) acceptance of the videotex concept; (2) skill in frame creation; and (3) a computer interface with the system operator.

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(14) Infomart; Teleguide and Other Projects

Firm

Infomart

Parent Firms

Southam, Inc., and Torstar Corporation, Toronto-based publishing firms, joined together to form Infomart in 1975.

Technology

Telidon-based viewdata and teletext systems.

Background and Role

Infomart's primary role is to package and distribute Telidon-based information and transaction services in home, business, and public markets.

- Activities include system management, system software development, and database creation. Infomart is Canada's largest electronic publisher, having produced over 100,000 videotex pages for over 300 information and service providers.

- Infomart has been licensed by the Canadian government to market Telidon on a worldwide basis. Drawing on the experience gained in developing, marketing, and managing videotex operations, Infomart has successfully sold packaged Telidon systems to a number of organizations. Package components include hardware, software, training, business systems and plans, and various other services needed to implement a system.

Project/Activities

Infomart has been involved in some capacity with virtually all Canadian projects, as well as with other videotex projects in the United States and overseas. Beyond the more recent and major activities listed below, Infomart is also in negotiations with a number of other firms and countries.

- In January 1982, Infomart joined Times Mirror in a joint venture called Videotex/America. Videotex/America has the exclusive Telidon marketing rights in the United States. (See Videotex/America).

- Licensed Telidon to Time Inc. and Times Mirror for their respective videotex systems. (See Times Mirror and Time Inc.)

- In April 1982, Infomart assumed the management responsibility of Project Vista from Bell Canada. (See Project Vista).

- Worked with Manitoba Telephone System (MTS) in various capacities for projects Grassroots, ELIE, and Ida. The Grassroots venture will be expanded to include the Province of Ontario commencing with a market test in spring 1983. (See MTS.)

- Infomart manages Cantel, the Canadian government's Telidon videotex service. Cantel provides government information to users through public access terminals located across Canada.

- Private File Service, a non-Telidon-based service, provides clients with database services for information storage, search, and management.

- Infomart sold a complete Telidon system to the Buick Motor Division of General Motors in November 1982. The system will be installed in the Flint, Michigan, headquarters of Buick and will be used to transmit product information to its dealers and customers across the U.S. The Buick Information Station will provide current information to users and will serve as a sales training tool and presentation aid. Infomart will supply the Infomart Telidon System Software (ITSS); terminals will be manufactured by Norpak Ltd., AEL Microtel, Ltd., and Electrohome, Ltd.

- Marketed Infomart Telidon System Software (ITSS) to Venezuela in 1981.

- Recently (first quarter 1983) sold ITSS to the Swiss PTT for their videotex system, called "Publitex," which is expected to offer the service to private homes and offices in fall 1983. Services for the Publitex system will be distributed through three videotex centers located in Berne, Geneva, and Zurich.

- TV Ontario, an educational channel, purchased both teletext and videotex software in the first quarter 1983. The purpose of TV Ontario's project is to use Telidon systems in the classroom and public centers. Applications include self-paced learning in both English and French. TV Ontario will place 100 terminals initially--25 in libraries and youth employment centers, and 75 in schools.

Teleguide

This commerical Telidon-based service is a comprehensive travel/leisure database for Toronto.

Cosponsors

Infomart, the Government of Ontario, and the Federal Department of Communications.

Other Participants

Bell Canada provides the distribution network.

Current Status

Teleguide in Toronto was opened for public use on September 27, 1982. It is expected that Teleguide will be replicated in other major Canadian and U.S. markets during 1983. Currently (April 1983), private interests in major U.S. cities have indicated a desire to have Teleguide; two have signed "agreements in principle."

Investment

The Government of Ontario contributed $5 million; the Government of Canada invested $2 million. Infomart, however, is the sole owner and principal investor (no figures provided).

Services

These are the headings of the Teleguide master menu for the Toronto area:

(1) Attractions; (2) Theater, Arts, and Entertainment; (3) Restaurant Selector; (4) Accommodations; (5) Retail Shops and Financial Services; (6) Sports and Recreation; (7) Transportation and Tours; (8) Weather and Time; (9) Traveller Aids; (10) Community and Government Information; (11) What is Teleguide; (12) Teleguide to Ontario; (13) Ontario Events Calendar; (14) International Teleguide.

Teleguide offers in-depth information for the above categories, including such items as current prices, availability, locations, hours, site maps, product/service descriptions, events calendars, and audience ratings. Multiple listings and indexes provide flexibility and easy access to users.

System Characteristics

- Over 100 Teleguide public terminals were in use at the opening. As of February 20, 1983, 247 public terminals were in place. Infomart anticipates that a total of 1,000 terminals will be installed during 1983.
- Teleguide is fully interactive and utilizes a hierarchical, menu-tree search format.
- Teleguide terminals are enclosed in a stand-up metal casing and include a color monitor with 16 function keys.
- Teleguide is operational 18 hours per day, 364 days per year.
- Over 14,000 pages of information are available, including 11,000 commercial and 3,000 governmentally purchased pages (March 1983).

- Over 1,100,000 pages have been accessed daily (February 1983), a number which vastly exceeds original expectations.
- Average number of pages read per person in one session number approximately 30 (February 1983).
- There are about 350 paying information providers (March 1983).
- Out of town/country information can be placed on Teleguide.

Cost to Content Providers

- Storage and Process Charges: 1 to 9 pages, $75 pg.
  10 to 99 pages, $65 pg.
  100 or more pages, $55 pg.
- Page Creation: An information page without graphics costs approximately $40 to $50 to create. Pages with some graphics usually run from $100 to $150. Each page can effectively hold 20 by 36 characters.
- Updating charges are not included in the above.
- Sponsorships: Organizations can sponsor information pages, and flat fees are assessed according to the market value. For example, the United States Football League (USFL) sponsors weather information and a watchmaker sponsors the worldwide time information.
- The above charges are "introductory" and "can be expected to double as the value of Teleguide is realized."

Cost to Affiliates

An affiliate (private investor) purchasing rights to Teleguide would receive the following support: Business, operations, communications, and marketing plans, two or more months of training from Infomart "consultants" working on the new site, software, and hardware.

The cost to an affiliate for a 300 terminal operation with two, large-scale DEC 11/780 VAX computers, designed to serve an area with approximately 1.5 million persons, would be in the $2 to $3 million range. In addition, in some instances, the regular phone system network may need to be upgraded, which may add a significant sum to the above cost.

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(15) KEYCOM Electronic Publishing; KEYFAX and MasterKey

Firm

KEYCOM Electronic Publishing, Inc.

Parent Firms

Centel Corporation (54%), Honeywell, Inc., (30%) and Field Enterprises, Inc., (16%) are partners in the joint venture, which was formed in April 1982.

Background and Roles

- Centel Corporation (formerly Central Telephone and Utilities Corp.) is a broad-based communications company, operating the nation's fourth-largest independent telephone system (1.2 million customer lines), serving in 10 states. Centel also operates cable television systems and is involved in the design, assembly, and marketing of telecommunications systems and equipment.

  Centel's primary responsibilities in KEYCOM include administration, telecommunications, and marketing/sales.

- Honeywell, Inc., is a developer, manufacturer, and marketer of advanced systems and services in the fields of information processing, automation, and control.

  Honeywell's primary responsibility for KEYCOM is to provide computer hardware and software, terminal equipment, and gateway protocols.

- Field Enterprises, Inc., is involved in publishing, communications, and real estate. It is the publisher of the Chicago Sun-Times and operates Field Newspaper Syndicate and the Field News Service. It also owns Field Communications Corp., which is the licensee of five television stations and a partner in subscription television services, and Field Cablevision, operator of five cable television stations. Field was the original developer of KEYFAX.

  Field's primary responsibility lies in the procurement of content and content providers, advertising sales, and the composition and development of content in the systems.

Projects

KEYCOM is currently broadcasting a teletext magazine called KEYFAX and is developing a fully interactive viewdata project called MasterKey. Both are reviewed below.

Technology

KEYFAX uses the British Ceefax teletext system standard. MasterKey is expected to use the North American Presentation Level Protocol Standard (NAPLPS).

Project

KEYFAX National Teletext Magazine (KNTM)

Background

Field conducted a 100-TV-set teletext test in the Chicago area beginning April 1981. The sets were rotated among the upscale participants every 30 days. The test used the British Ceefax Protocol, offered a 100-page magazine, and had content providers that include Field news resources, AP and UPI news wires, and Dow Jones. To some extent, the test is ongoing, as some individuals continue to receive the magazine.

Field also broadcasted a scrolling teletext service (no simple interactive capabilities) called NIGHTOWL from September 1981 to September 1982. This Chicago-area broadcast (WFLD-TV) was available from 12 midnight to 6 A.M.

Current Activities

KEYCOM owns and produces the KEYFAX National Teletext Magazine (KNTM), which is offered in conjunction with Southern Satellite Systems, Inc., a subsidiary of Satellite Syndicated Systems, Inc. Syndicated Systems owns the signal over which the magazine is transmitted. KNTM is broadcast in the vertical blanking interval of the signal that carries Ted Turner's WTBS "SuperStation." This signal reaches approximately 24 million homes.

Current Status

KNTM began broadcasts in November 1982. Potential subscribers, however, are unable to access the system due to the lack of decoder availability. KEYCOM is currently awaiting UL approval for the decoders.

Distribution

Satellite Syndicated Systems, Inc., will market the equipment to cable system operators, who in turn will be responsible for marketing efforts and support systems for the general public. It has been reported that a number of cable systems are committed to offering the magazine.

Services

KEYFAX offers approximately 100 pages of information. The KEYFAX editorial staff maintains full editorial control over content with 24-hour staffing. The information base is updated up to 1500 times per day, with bulletins sent out within one minute of receipt from wire services and within three minutes for a major news story. Content providers include AP, UPI, Dow Jones, and the Field News Service.

Information offered includes national news, weather and sports, a leisure package made up of recipes, horoscopes, consumer tips, feature articles, movie and book reviews, and games and quizzes; the Children's Bullseye Club; and a Video Message which enables customers to send a greeting for holidays, etc. for an additional $25.

Future service offerings will probably include closed captioning for the deaf. Eventually, cable systems may augment the national magazine with a local teletext magazine.

System Characteristics

- Keypad/decoder. The equipment is manufactured by the British firm Ayr Viewdata. The keypad is operated by remote control (no cords).
- Standard. KEYCOM is using the British Ceefax protocol, but will upgrade to the Presentation Level Protocol (PLP) or others when standards are established and equipment becomes available.

Staff Size

The staff has grown from 18 persons before the merger to about 75 persons currently (March 1983).

Customer Cost

Customers will be charged $19.90 per month; this fee includes the magazine and decoder/keypad.

Projections

KEYCOM has set a subscriber target of 300,000 during the first 30 months of operation.

Project

MasterKey

Current Status

MasterKey is a viewdata system expected to begin in early 1984.

Location

MasterKey will begin operations in Chicago and will roll out into other areas some time after the initial introduction.

Services

KEYCOM has divided its services into three levels: retrieval, interactive, and transactional. Retrieval services are expected to include: transportation schedules, bulletin boards, entertainment listings, educational material, library card catalogs, news, sports and weather, restaurant guide, display and classified ads, and financial and business news/data.

Interactive services should include education activities (e.g., tutorial learning and remote classroom instruction), electronic mail and real-time messaging, video games, and public opinion polling.

Transactional services should include bill paying, bank-at-home, in-home shopping, and ordering/paying capabilities for other products and services, such as theater tickets and hotel or airline reservations.

Content Providers

- Commitments from a number of content providers have been obtained but not released.
- VideoFinancial Services' gateway processing service, called Applause, will process the financial and retail transactions for KEYCOM.

System Characteristics

- Users will be able to access the system through their personal computer terminal or other business machine (with read-only memory). In addition, KEYCOM will offer noncomputer owners a terminal with internal memory at an additional cost. This terminal will attach easily to the customer's TV set.
- Initially, the system is expected to be offered only through telephone lines (not cable).
- KEYCOM expects to use the Presentation Level Protocol, which will support both text and graphics.

- The system's cost to the user has not been announced, but "will be reasonably priced."
- Subscriber target for the first year has been tentatively set at 25,000.
- Both keywords and hierarchical (menu-tree) search formats will be available to the user.

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(16) Manitoba Telephone System; IDA, ELIE, Grassroots, and FAST

Firm

Manitoba Telephone System (MTS)

Projects

IDA, ELIE, Grassroots, and FAST

Project

Grassroots

Location

Primarily Southern Manitoba, with an ongoing expansion into Ontario

Current Status

Grassroots became operational in May 1981. It is not a field trial or a market test; it is the first commerical Telidon system. Grassroots is an ongoing operation serving farmers through terminals located on farms and in farm service/support organizations. The 150 homes in the ELIE field trial received access to Grassroots in October 1981.

Technology

Telidon-based viewdata system

Sponsor

MTS and Infomart

Roles

Infomart supplies the software and database; MTS is the system operator.

System Characteristics

MTS explained that 90% of the area's 30,000 farmers will be within 18 miles of one of the "public" terminals in the network. These "seed" terminals are expected to generate additional leases from users and information providers as their value is realized. There are currently 285 terminals on lease to users, and 117 to information providers to the database (January 1983). Grassroots currently has a 13,000 page database (January 1983).

Cost

No charge to farmers using the introductory terminals. Rates for new terminal lease and maintenance orders are competitive and are as follows (January 1983):

1. Monthly Rental (maintenance included): $59.10/month for a one-year contract, $74.85/month on a month-to-month basis.

2. Lease to Purchase (maintenance included): $47.50/month for 24 months, or $200.00 up front and $30.00/month for 24 months (after 24 months, the customer owns the terminal).

3. Outright Sale: $700, with maintenance offered at $10/month.

Services

Infomart offers thousands of pages targeted specifically to rural needs. Services include: a real estate firm, one newspaper, current market (grain and livestock) trends and prices, world weather information, commodities' conditions, entertainment, children's stores, farm management models, financial services, games, health, government, travel, education, lotteries, teleshopping, messaging, sports, and so on.

Expansion

Infomart has announced that Grassroots will be expanded to include Ontario, Canada. The University of Guelph has been developing for Ontario agricultural interests a database that will be merged with Ontario-relevant portions of the current Grassroots database. The Telidon production center for the Ontario operation is located at the University of Guelph.

A six-month market test, expected to begin in April 1983 and end September 1983, will be conducted in selected farm homes. Test participants may purchase a terminal for $750.00 or subscribe for $50.00 per month. The above charges include six hours of connection time; each additional hour will cost $8.

o Grassroots' longer-term goals include expanding into the U.S. market.

Project

ELIE

Location

Elie-St. Eustache, approximately 31 miles west of Winnipeg.

Current Status

Field trial commenced September 1981 and will run for 18 months (ending March 1983).

Sponsors

Department of Communication (DOC), the Canadian Telecommunications Carriers Association (CTCA), MTS, Infomart, and Northern Telecom Canada.

Investment

DOC--$5.4 million; MTS--$1.7 million; CTCA--$1.5 million; Infomart--$.9 million. Total = $9.5 million.

Test Size

150

Technology

Fiber optics

Services

Subscribers received single-party telephone, cable TV, FM radio, and a data channel used for interactive computer services. The latter includes farm reports, commodities' prices, computer-aided instruction, teleshopping, messaging, and so on.

Roles

MTS is providing the basic infrastructure for operating and maintaining the system. DOC and CTCA are funding the experiment to test and develop fiber optics. Implementation of Telidon on the system has been jointly funded by MTS, DOC, and Infomart.

Report Number: OCLC/OPR/RR-83/8
Date: 1983 October 28

Test Purpose

To gain experience in the application of the fiber optic technology and encourage development of this technology, as well as to identify consumers' database wants and needs.

Goals

To develop a system with integrated services which can economically serve rural areas.

Project

IDA

Location

South Headingley, a suburb of Winnipeg

Current Status

Field trial terminated on December 31, 1981

Field trial began in June 1980 over standard telephone lines. Coaxial cable introduced in October 1980. At present, there are no plans for any service expansion.

Investment

MTS budgeted $1.8 million for IDA.

Test Size

Fifty homes with Videotex; over 50 received alarm services.

Technology

IDA has tested two Canadian-built systems, Omnitex (developed by Interdiscom Systems Ltd.) and Telidon.

System Characteristics

Coaxial cable connected users to either the Telidon system or the Omnitex system.

- The Telidon system utilized a keypad, while the Omnitex system incorporated a full alphanumeric keyboard.
- Telidon used alpha-geometric graphics, while the less expensive Omnitex used the coarser alpha-mosaics.

Role

MTS acted as the common carrier and system operator for the information providers. With the exception of Electronic Yellow Pages, MTS does not plan on becoming a database broker or information provider. The information software was supplied by Infomart. Cybershare developed the software for educational services.

Information Providers

Information providers included Winnipeg Free Press, MTS Electronic Yellow Pages, Southam News, Cybershare Ltd., University of Manitoba, Department of Education, and the Ontario Education Communications Authority. Databases were maintained by Cybershare Ltd. and Infomart.

Service Providers

Alarm reporting services included Amplitrol Electronics Ltd., ProTelec Ltd., SDS Technical Devices Ltd., and the Winnipeg Fire Dept. Entertainment providers included CPMS Cable Stereo, Selecta Vision, Inc., and Infomart. Meter-reading services will be provided by Greater Winnipeg Gas and Manitoba Hydro. Metropolitan Security and Teleguard Ltd. withdrew as service providers before the test ended.

Services

Fire protection, educational programming, information (news, weather, sports, entertainment, travel, advice, etc.), cable TV, stereo music, TV games, and gas and water meter reading. In addition, digital telephone service was provided for seven test homes to enhance telephone service and make possible future services.

Project

FAST (Fast Action Safety Team)

Location

Brandon and Winnipeg

Current Status

All of Winnipeg had FAST service as of May 1, 1982. Brandon, Selkirk, and Dauphin currently have FAST service.

Technology

The system will use standard phone lines to deliver the services. While this is not a videotex service, it does exemplify an associated service that will characterize the "wired" society.

Roles

MTS will continue its stated goal of being the system operator and not a service provider. MTS leases the hardware and network to private alarm companies that then bill the consumer. There are five participating alarm companies with contracts for providing the service.

Cost

Prices to the residence or business vary according to the alarm company selected, home size, and number/sophistication of services required. Installation and hook-up is $360 or more, while monthly fees range from $10 to $30, depending on the service and application.

Services

Fire, medical, burglary, and optional furnance/freezer alert services are available.

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(17) Mead Corporation; Mead Nexis and Mead Lexis

Firm

Mead Corporation

Business Unit

Mead Data Central

Technology

Internally developed viewdata system

Projects

Mead Nexis and Lexis. In addition, Mead also distributes libraries developed by the Associated Press Political Service (APPS), the American Institute of Certified Public Accountants (AICPA), and the Encyclopaedia Britannica.

Current Status

Lexis began operation in 1973; Nexis began in March 1980.

Subscriber Base

Over 100,000 users (all services combined).

Growth Rate

Mead Data Central as a division is experiencing a growth rate in excess of 30% per year. Nexis is growing at a rate of 120% per year.

Investment

Since 1969, Mead has invested over $30 million into their projects.

Location

The home center is located in Dayton, Ohio. Sales and service centers are located nationwide and overseas in London and Paris.

Cosponsors

Mead has entered into joint-venture arrangements with those firms offering independent libraries. These organizations include the Associated Press, AICPA, and Encyclopaedia Britannica.

In England, Butterworth, Ltd., and in France, The Alliance French Press, are joint-venture partners with Mead. In England and France, Nexis and Lexis must be purchased together.

Project Descriptions

The Mead Libraries are archival databases designed for research; they are not a source of highly current, late-breaking news. Content published daily is generally available the following day on the Mead Libraries. Weekly materials are available one week after publication; monthly materials are usually available three weeks after the original publication.

Nexis

- Nexis is a general news and business information service, designed for research needs found in business/financial areas, news centers/agencies, advertising/public relations companies, and legal firms. Nexis contains over four million articles.

- Nexis features over 60 publications, including: magazines, such as Business Week, The Economist, Dun's Review, and U.S. News and World Report; newspapers, such as The Washington Post; U.S. and foreign journals, news agencies, and wire services; numerous newsletters and reports on various industries, product issues, and parts of the world; and a number of government documents (e.g., The Federal Register, The Code of Federal Regulations, and the Federal Reserve Bulletin).

- Numerous search formats are available to the user.

Lexis

- Lexis is designed to facilitate legal research in law firms of all sizes, government agencies, corporate law departments, law schools, and any level of court or government attorney's office.

- Lexis carries the full text of federal law and the case law of all states. In addition, Lexis offers numerous, specialized law libraries, including tax, securities, labor, communications, bankruptcy, and so on.

- United Kingdom and French law are also available.

- Search can be conducted through numerous methods, including keyword or key phrase, judge, court, date, and statute/regulation. Citation searches can be made through Lexis, Shepard's, or Auto-Cite.

Private Libraries Available Through Mead

The following services are available for a surcharge (to standard Lexis or Nexis fees). While they can be ordered without subscribing to Nexis or Lexis, "no one has done this yet."

- The Encyclopaedia Britannica, including both the Macro- and Micropaedia. Other EB publications, including Britannica Book of the Year, Science and the Future (1981 and 1982), and the Medical Health Annual (1981 and 1982), are also available.

- DISCLO, provided by Disclosure, Inc., features abstracts and extracts of approximately 9,000 companies required to make SEC disclosures.

- The American Institute of Certified Public Accountants provides selected portions of over 4,000 annual reports. In addition, other financial information, such as statements of auditing standards and accounting series releases, are provided. There is a $40 surcharge for this service.

- The Associated Press Political Service became available to Mead subscribers in August 1982. This service is directly fed by the Associated Press wire (previously offered through the New York Times Information Service). Content includes originally written biographies of political candidates, candidates' calendars, voting records, and positions taken on the issues by politicians. Positions taken by candidates are also listed by topic in a summary file. There was no historical content in the initial database; this will be developed over time.

System Characteristics (all projects)

- Staff. MDC employs over 600 persons.

- Technology. Internally developed software and firmware.

- Availability. Service is available 23 hours per day, except for 5 to 6 hours during maintenance on weekend nights.

- Response time and reliability. The response time for information demanded is 15 seconds or less. The system reliability rate is "99.7%."

- Databases. Combined MDC databases hold 40 billion characters.

- Delivery vehicles. Dedicated phone lines leased from AT&T. The system is a "completely self-managed network."

- Host computers. Two Amdahls.

- Interactive services. Outside of information search, interactive services are not currently available to subscribers.

- Equipment and service. MDC provides all necessary equipment to subscribers. Subscribers must lease (can't buy) equipment from MDC. Non-MDC equipment is not compatible with the system.

- Only text is currently available (no graphics).

  MDC supplies dedicated terminals, modems, telephone, telephone lines, display devices, and printers.

  The "dumb" terminal has a full keyboard and 22 special-function keys designed for nonsophisticated users.

  Maintenance, consulting, and training services are included in the Mead package.

Pricing

Listed below is a synopsis of the 1982 pricing schedules and policies.

Nexis

- $50 monthly subscription charge for each firm.

- Peak-time hourly connect charges (7:30 A.M. to 7:30 P.M.) range from $90 per hour for the first 5 hours per month, to $30 per hour for each hour over 100 hours per month.

- Off-peak time charges are $45 per hour, or the peak-time rate, whichever is less.

- Installation charges: $400.00 for the first Nexis Deluxe terminal, $200.00 for the UBIQ terminal, and $200.00 for the stand-alone printer. There is no charge for additional terminals or printers installed in the same building.

- Additional costs include search surcharges and remote printing (at MDC) charges.

- Discounts possible for business and journalism schools.

Lexis

- $100 monthly subscription fee, plus $10 per professional up to 20 professionals, and $4 each for the next 60. (These charges are for one building; additional buildings receive a reduced rate).

- Equipment charges include $150.00/Deluxe terminal (includes desk-top printer), $55/UBIQ terminal, and $150.00/stand-alone printer.

- Hourly connect time, installation, search surcharge, and remote printing charges are the same as in Nexis.

- Instructional charges run $75 per professional.

- Discounts available for law schools.

Other Services

- A surcharge is assessed for subscribing to the Encyclopaedia Britannica, AICPA, and APPS products.

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(18) Pronto; Chemical Bank

Firm

Chemical Bank

Project

Pronto

Technology

Internally developed viewdata system

Test Site

New York City, Westchester County, and Long Island

Project Status

Formal test began November 1981; 200 customers on the system by April 1982.

The full public offering is expected to begin in May 1983. The subscriber base is expected to total 10,000 accounts by May 1984.

Technology

Internally developed

Investment

"Chemical has put $10 million into Pronto and plans to invest another $10 million during 1983."

Pricing

"Public" pricing has been set at $12. There was no charge to test participants. Chemical Bank research indicated that there was little price sensitivity between $8 and $16, "so we decided to split the difference."

Content Providers

"A number of major regional banks and several information providers."

Services

Bill paying for over 230 merchants, account information, transfers between accounts, home budgeting and record keeping, checkbook reconciliation, electronic reports, and electronic mail. The messaging system includes full interaction capabilities among banks, content providers, and household subscribers.

The public offering will also include the following:

- Shopping--Teleshopping is currently experimental. It is anticipated that it will allow for order entry with products described in one-line descriptions. Later stages will feature full descriptions with advertisements and, eventually, multiple indices/cross-selling capabilities.

- Investment Services--Initially, market quotes will be available to subscribers. Later stages will provide portfolio analysis and, eventually, a discount brokerage service enabling the subscriber to buy and sell securities, stocks, etc.

- The Business Information System--This system has been targeted to the small and medium-sized business. It will include cash management and account reconciliation.

Anticipated Future Services

Encyclopedia, additional information services, travel services (maybe ticket sales), and entertainment.

Security

Pronto has four levels of security built into the system. A cartridge ID, household ID, person "handle," and personal code are all needed to access Pronto.

System Characteristics

- Currently, the user must own the Atari 400 terminal and any Atari-compatible modem to access Pronto. (The Atari 835 is recommended, as users can take advantage of its special features). Chemical Bank expects that users owning an Apple II or IBM Personal Computer will be able to access Pronto by the second quarter of 1983.

- The hardware cost for the Atari 400 terminal and 835 modem is currently under $400. (Chemical Bank provided all hardware to test participants at no charge.)

- Only text is currently available to users.
- In the future, Pronto "will go with AT&T Presentation Level Protocol." The current system was internally developed.
- Pronto also will be integrated with other system/content providers through gateways. Presently, however, Chemical Bank feels the response time is too slow.
- Pronto has been designed to be fully integrated with automatic teller machines and POS systems.
- Pronto has been fully integrated with the bank's main system. The system is fully automated with "no hand processing with paper."
- Pronto uses a hierarchical search format (menu-driven).
- Staff committed to Pronto is approximately 80 persons.

Project Goals

The goals of the field test were sufficiently attained to warrant introducing Pronto to the general public. The goals were: (1) answer technical and operational questions, (2) fine tune services, (3) determine an appropriate pricing strategy, (4) attain market information for strategic decision making, and (5) assess costs.

Current goals include licensing Pronto to other banks. Announced licensees include Florida National Bank, Crocker Bank (San Francisco), Union Trust (Connecticut), First National of Pennsylvania (Erie), Worthen Bank (Little Rock), and Manufacturers National (Detroit). Other announcements are pending (January, 1983).

Licensing Approaches

Chemical Bank offers other banks two approaches to obtain Pronto: (1) a pilot project, and (2) a full franchise.

(1) The pilot project approach enables the participating bank to conduct a 200 person test for a period of one year (which is extendable). In this case, the participating bank "runs off Chemical Bank's system." The licensing cost is $25,000, plus $1,500 per month after the first customer is signed, and $4.00 per customer per month. Total costs have been estimated to be $200,000, including the purchase of 200 Atari 400 terminals and 835 modems.

(2) A full franchise enables the participating bank to independently offer Pronto. Franchise fees include: $100,000 for software, some consulting, and advertising/promotion support; $10,000 yearly for software maintenance; and $1.00 per customer per month. Other costs include approximately $250,000 for hardware to support a system with between 2,000 and 5,000 subscribers, and communication costs (e.g., using Tymnet or Telenet). A full license may be negotiated to include sublicensing rights.

Report Number: OCLC/OPR/RR-83/8
Date: 1983 October 28

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Home Information Services
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(19) Source Telecomputing Corporation; THE SOURCE

Firm

Source Telecomputing Corporation (STC)

Parent

The Readers Digest Association, Inc.

Projects

STC provides three distinct services, including:

(1) THE SOURCE to personal computer/terminal users worldwide (details below).

(2) SOURCECABLE to cable television viewers in several U.S. cities. Services include consumer tips, news highlights, and games.

(3) UPDATE to telex users overseas. Services include sports, weather reports, airline schedules, UPI news, and stock information.

THE SOURCE is also offered as a "sister service" to the banking services in First Interstate Bank of California's in-home banking test.

Technology

Internally developed viewdata system

Location

Headquarters and the operations center are located in McLean, Virginia.

Availability and Mode of Transmission

THE SOURCE can be accessed via a local phone call in over 460 U.S. cities and by WATS lines in outlying areas. THE SOURCE is delivered through packet-switched networks, including the Uninet, Telenet and Tymnet communications networks.

Project Status

Ongoing business that began operations in June 1979.

Subscriber Base

Over 29,000 subscribers as of February 1983. The subscriber base experiences a net monthly growth rate of 1500 subscribers. This includes approximately 1800 new subscribers and 300 cancellations per month. Approximately 52 percent of the subscribers access THE SOURCE primarily for business purposes.

Services

THE SOURCE offers "nearly 800 services" drawn from over 40 different databases. The services include electronic mail and messaging, UPI news wire, Commodity News Service, stock information and analysis, abstracts from business journals, games, catalog shopping from Comp-U-Store (see Comp-U-Card) and other sources, worldwide airline schedules from Dittler Bros., and financial and business information from Media General and Management Contents.

New Services

THE SOURCE has recently (March 1983) organized a New Product Development Dept. to more formally develop and evaluate potential products. THE SOURCE notes that new products are receiving close scrutiny based on likely long-term usage rates, as opposed to "attention-getter qualities." This relatively new policy has led to decisions to drop a number of previously anticipated new products, such as an electronic encyclopedia.

Anticipated areas of expansion include additional travel information, other electronic shopping services, and an increased emphasis on games. THE SOURCE also expects to increase offerings for the business/financial community. The Executive Source is still under development and is expected to be introduced during summer 1983.

Service Usage

The top three usage categories of THE SOURCE are (1) Source Mail, (2) UPI News, and (3) The Chat Service (real-time messaging). THE SOURCE also indicates that Comp-U-Store usage has been "really picking up" since October 1982. About that time, Comp-U-Card introduced a "very easy to use shopping system."

System Characteristics

THE SOURCE is compatible with nearly all brands of personal computers, terminals, and modems. The subscriber must purchase his own equipment.

- THE SOURCE is available through Radio Shack stores and most other computer outlets.

Pricing

THE SOURCE charges an initial subscriber fee of $100. There is a monthly minimum usage threshold of $9.00 per month. If subscribers use less than $9.00 worth of service, they are still assessed a $9.00 charge. In addition, there is a $1 monthly subscriber maintenance fee.

Hourly usage rates are: $20.75 during the day; $7.75 during evenings and weekends; and $5.75 after midnight. There are currently no plans to differentiate pricing schedules for business and personal information.

THE SOURCE notes that the monthly minimum pricing policy "cleans-up the subscriber base" and that all subscribers are contributing subscribers. This policy accounts for the monthly attrition rate and makes subscriber-base comparisons with firms which don't have minimum or fixed monthly rates difficult.

Profitability Considerations

"THE SOURCE is not currently operating on a profitable basis, but it is experiencing a continual improvement in performance. We expect to be on a profitable basis in 1 1/2 years (from February 1983) and probably sooner."

Subscriber Profile

THE SOURCE provided the following information from their most recent subscriber survey.

Average Age

42 years old--3 years older than in 1981

Average Income

$59,000

Sex

Roughly 90% male

Occupations

Most are professionals/businesspersons (90+ %), and 60% work in areas unrelated to computers.

Place of Access

20% of their subscribers access THE SOURCE most often at work; 80% access it most often at home.

Purpose of Usage

54% of the subscribers spend at least one-half of their access time for primary or secondary occupation purposes.

Recommendations

86% of the subscriber base report having shown THE SOURCE to friends and co-workers. 81% have recommended THE SOURCE to others.

Cancellation Reasons

A "quickie survey" indicated that approximately half of the subscribers who withdrew from THE SOURCE did so for non-SOURCE-related reasons (e.g., moving, personal computer breakdown, and "THE SOURCE works but just don't use it"). Other subscribers indicated that they didn't understand how to operate the system or were simply disappointed.

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(20) Time Inc.; Full-channel Teletext Field Trial

Firm

Time Inc.

Project

Full-channel Teletext Field Test

Business Unit

Time Video Information Services (TVIS), which is part of the Time Video Group.

Technology

Full-channel teletext using the Telidon-based North American Broadcast Teletext Standard.

Delivery Vehicle

One-way cable

Location

- Tests will be conducted in two of the Time Inc. cable markets, San Diego, California, and Orlando, Florida.
- Host system and satellite up-line will be located in New York.

Current Status

Tests commenced in October 1982.

Participants

400 households. All participants are active cable subscribers. There is a mix of pay TV and nonpay TV households. The sample is "representative of the community."

System Characteristics

- One-way cable using a full, six megahertz cable channel
- 5,000 pages of informaton and telesoftware programs transmitted continuously
- Keypad and decoder-equipped cable television converter are provided to the participants
- Editorial staff: 44 full-time persons
- System equipment includes:

  Large-scale DEC Computer (VAX 11/780)

  Full-channel Videotex Inserters developed by Norpak, Ltd., and Time Inc.

  Prototype decoders developed by Norpak, Ltd., and Time Inc. and integrated with Zenith Z-TAC Tiered Addressable Converter

  Software developed by Infomart and Time Inc.

  Mass-produced decoders being developed by Time Inc. and Matsushita

Pricing

No cost to participants outside of normal cable charges for the test's duration. Commercial service expected to be priced at $5 to $10 per month.

Content Providers

Content will be developed by the TVIS editorial staff. In addition, local newspapers will probably serve as regional information providers. TVIS stresses that content will not simply be a "down loaded" smorgasbord of existing publications. The TVIS editorial staff will "package content to create a unique service."

Services

Beyond the content cited above and standard teletext offerings, such as news, sports, and weather, TVIS will offer "interactive capabilities" (of full-channel teletext). The "supertext" system will enable users to gain a number of advantages available in viewdata/videotex. For example, the programmable keypad lets users "punch in stocks which they own (and number of shares) and at any time know what they are worth." The system also allows for computations and services, such as video games.

Advertising Efforts

Time Inc. has formed the "Advertising Advisory Council," which consists of six major agencies. Time Inc. has asked "for a real commitment of resources from the agencies" to develop advertising strategies and techniques suitable for teletext. The agencies and Time will jointly "select 40 clients to develop advertising applications which will feature interactivity and value added." The six agencies are BBDO, Doyle Dane Bernbach, J. Walter Thompson, McCann-Erickson, Ogilvey, and Mather, Young and Rubicam.

Comment

Time Inc. owns one of the nation's two largest cable firms, American Television and Communications Corporation (ATC). In addition, Time Inc. also owns the leading pay television service, Home Box Office.

The original "Viewdata Project Reviews" noted that Time Inc. was expecting to conduct a viewdata test in late 1982. Currently, Time Inc. is making no announcements concerning any future viewdata activity.

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(21) Times Mirror; The Southern California Videotex Field Trial and Gateway

Firm

Times Mirror, Inc.

Business Unit

Times Mirror Videotex Services (formed January 1981)

Project

The Southern California Videotex Field Trial. The publicly offered service will be called Gateway.

Location

Host computer located in Costa Mesa, California. The Los Angeles area was chosen to take advantage of the resources of Times Mirror's flagship newspaper, the Los Angeles Times.

Technology

Telidon-based viewdata system. System purchased from Infomart's then-named U.S. subsidiary, Telidon Videotex System, Inc. Infomart has since joined Times Mirror in a joint venture, entitled Videotex/America, for the operation of joint venture videotex systems with other communications organizations in the U.S. (see Videotex/America).

Project Status

Field trial began March 15, 1982. The trial continued until the end of 1982. Gateway will be offered publicly in 1984. VideoFinancial Services recently announced that it will process retail and financial transactions through its gateway system, Applause.

Participants

Field trial had 350 volunteer participants--200 in Rancho Palos Verdes and 150 in Mission Viejo. Selected participants exhibited "early adopter" characteristics.

Delivery Vehicles

The 150 Mission Viejo participants were reached via two-way cable, and the 200 Rancho Palos Verdes participants via standard telephone lines.

Investment

"Will reach well into the millions."

System Characteristics

- 23,000 page database (test and graphics) at start-up; over 70,000 pages by November 1982.
- 200,000 words updated daily
- Fully interactive using a hand-held, remote control, alphanumeric keyboard.
- Two DEC VAX 11/780 host computers
- Software developed by Infomart--Infomart Telidon System Software 2 (ITSS-2)
- User terminals include: 19-inch Electrohome color TV, Norpak Mark III decoder, General Datacom modem (telephone), Ecom modem (cable) and Electrohome keyboard.

Pricing

The field test included a cost to users for obtaining information/services. Both variable and tiered pricing schemes were tested. Eventually, however, primary revenue streams are expected to flow from advertising and electronic mail.

Services

Local, regional, and national news; numerous consumer-oriented information categories; comprehensive in-home shopping and banking services; classified advertising; educational packages ranging from preschool to the college level; numerous games and entertainment offerings; and electronic mail, messaging, greeting cards, and public bulletin boards.

Anticipated Service Expansions

Additional personal services, such as a personal calendar, personal information storage, personal news review (only story headings predesignated by the user), and personal investment calculations.

Content Providers

Content drawn from over 75 content providers. Content providers include: Pan Am, PSA, IDS, Western Union, local shopping centers, department stores, Bank of America, Hallmark Cards, Comp-U-Card, Sears, Waldenbooks, Official Airline Guide, GTE community yellow pages, and numerous Times Mirror operating units, including the Los Angeles Times, Newsday, Popular Science, The Sporting News, and Times Mirror Magazine's book division.

Test Purposes

- Compare cable-delivered videotex to telephone line-delivered videotex.
- Examine the technical system in the field.
- Develop editorial techniques to fit the medium.
- Examine consumer response to service.
- Measure content providers' benefits derived from participation.

Preliminary Research Findings

The following information was drawn from a Times Mirror/Infomart paper entitled "Preliminary Research Findings," which was released on March 21, 1983. For the entire text of the report, contact Penny Jo Welsch (714/662-2922).

Usage Findings

- A majority of the trial participants surveyed used Gateway several times per week.
- Gateway used most frequently by the head of household, regardless of sex.
- Games, news, shopping, bulletin boards, and entertainment consistently placed in the top seven programs in terms of page accesses.

Listed below are the most heavily used content categories by age and sex:

Age	Sex: Male	Sex: Female
Under 18	Games Learning Recreation Electronic Mail Classified Ads	Learning Home and Style
Over 18	News Sports Financial Banking Community Travel	Banking Shopping Consumer Affairs Health Home and Style

- 20% of the time spent on Gateway was for interactive programs, such as games, ordering, banking, and the Official Airline Guide.
- The novelty curve was illustrated in the field trial. After a period of six to eight weeks, usage declined, levelled off, and then climbed upwards near the trial's end.

Essential Programs

The following findings were drawn from a select group of households identified as most likely to subscribe to a videotex service. Programs rated as "essential" by heads of these households were:

- Games 79%
- Shopping/product information 72%
- Bill paying 71%
- Late-breaking news 60%
- Education for children 57%
- Electronic mail 56%

Benefits/Attributes Sought

- 72% want videotex to save time paying bills and taking care of finances.
- 69% want videotex to reduce the time spent getting shopping information.
- 52% indicated they would like videotex to reduce time spent on keeping up with local, national, and world news.
- 70% do not want videotex to take the place of other information sources.

Shopping Findings

- 53% of all households placed orders through Gateway.
- 33% agreed that it is more convenient to purchase through Gateway.
- 72% would like to see more stores on Gateway.

Items most likely to be purchased through Gateway include:

- Bargain and sale items from major retailers 70%
- Small appliances 40%
- Services, such as plumbers and gardeners 32%
- Soft items, such as groceries and clothing 31%

Respondents felt that the following shopping services and information categories were essential:

- Information about bargain and sale items 70%
- Ability to order bargain and sale items 60%
- Shopping and product information 65%
- Ability to order goods 58%
- Communicating directly with merchants through electronic mail 74%

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Electronic Mail Findings

- Electronic mail received heavy usage. During the final three months of the trial, electronic mail was more heavily used than games.
- 69% of all participants sent an electronic message.
- 25% placed ads on the advertising bulletin board.
- 19% sent messages to other bulletin boards.

News Findings

- Gateway was the third-most frequently mentioned source for late breaking news.
- 66% felt there was not too much news on Gateway (over 3,000 pages of news was available daily).
- 71% felt the news was current.
- 66% want Gateway to keep them abreast of community news.

Overall

- Gateway was perceived as a "comprehensive home information service," not just an electronic newspaper or purely an entertainment form.
- 77% of the households felt very good about receiving information and services through a TV set in their homes.
- 75% feel it is essential that videotex keep them informed.

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(22) The Ridgewood Videotex Field Test; CBS and AT&T

Project

The Ridgewood Videotex Field Test

Participants

This activity is a joint field test by American Bell's Consumer Products Division and CBS Inc.

Location

Ridgewood, New Jersey

Current Status

The test started September 23, 1982, and is expected to last for six to seven months. The project will be conducted in two phases lasting approximately three months each. (Note: The project ended in April 1983.)

Roles

American Bell is providing both types of home terminals being tested (see system characteristics), frame-creation terminals, and the computer and interface software.

CBS is providing all content, including information, advertising, transaction services (banking and shopping), and entertainment.

Both American Bell and CBS have responsibility for computer hardware, operations, and market research; they jointly pay for telephone lines obtained under tariff from New Jersey Bell.

Participants

200 households, representing about 600 individuals, are in the test.

Ridgewood is an "upscale" community of about 25,000 persons. Ridgewood's average family income is $55,000; residents are highly educated and work in professional or managerial positions.

As a whole, the participants are heavy users of newspapers and magazines, purchase cable TV, own videocassette recorders and/or personal computers, eat out frequently, and are involved in community activities. Children in these households "receive computer training as early as kindergarten."

System Characteristics

- Because of the timing of the system design and implementation, this test is not using American Bell's Presentation Level Protocol. All test computer software was developed by American Bell.
- The test will compare two types of home terminals. One is a fully integrated, stand-alone terminal with its own color monitor and built-in keyboard. The other is a terminal that attaches to the participants color television set. In each phase, fifty percent of the participants will receive the integrated unit and the other fifty percent the attached terminal.
- The creation of graphics by CBS is supported by American Bell frame-creation terminals and system software.
- The terminal equipment manufacturer is Western Electric.

Content

Information

The test's database information offerings include: news, weather, and sports; business and financial news; health, household, food/nutrition, and consumer advice; and leisure, entertainment, and community information.

Over 600 information providers are participating, including the broadcasting and publishing resources of CBS Inc. (e.g., CBS News, Holt, Rinehart and Winston, and numerous magazines), the Wall Street Journal, the New York Times, Financial Times of London, the Bergen Record, the Star Ledger, Associated Press, United Press International, Merrill Lynch, National Geographic, TV Data, World Almanac, and a host of other newsletters, magazines, and service organizations.

Shopping

Participants may search and order items from 20 local and national retailers and direct marketers, including J.C. Penney, Saks Fifth Avenue, Grand Union, and Doubleday's Literary Guild. In addition, airline, car rental, and restaurant reservations can be made.

Advertising

The test has 16 major advertising agencies, representing over 80 advertisers, developing advertising applications for videotex. Three types of advertising have been developed:

(1) Brand/product identification on editorial pages. Advertising geared to provide awareness and stimulate interest.

(2) Transactional advertising, in which product information is provided along with order-entry capabilities.

(3) Informational advertising, in which information beyond product descriptions is provided.

Advertisers and test participants may also take advantage of an American Bell-developed automatic telephone dialing feature. This feature enables the user to contact the advertiser for additional product information/ordering on designated advertisements by depressing a single terminal key.

Advertising objectives include testing the effectiveness of various advertising forms and measurements of appropriate levels of product information.

Banking

Home banking is being offered in Phase II of the project. Services include account statements, bill paying, funds transfers, rates, and other bank information, such as ATM locations and "product" listing/explanations.

Software development and consumer services for banking have been provided by ADP, Inc. (Automatic Data Processing). The banking services are being offered through the TREASURER, a shared ATM network, in conjunction with three of its participating banks--Citizens First National Bank of New Jersey, Fidelity Union Bank, and Independence Bank of New Jersey.

Other Services

The test also includes electronic messaging, numerous educational offerings for all levels, tailored content for children and young adults, computer games, enhanced computer services, such as electronic files for personal information storage, and two categories called Fast Track(TM). Fast Track(TM) enables users to preprogram frequently desired information topics/pages to obtain a customized information service.

Objectives

- Research consumer acceptance of videotex and its different services.
- Assemble, develop, and test creative, editorial, artistic, and database management skills.
- Develop, test, and operate videotex computer systems and its components.
- Assess participants response to terminal options.

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(23) Viewtron; Knight-Ridder Newspapers, Inc.

Firm

Viewdata Corporation of America, Inc.

Venture Name

Viewtron

Parent

Knight-Ridder Newspaper, Inc.

Cosponsor

AT&T (American Bell) provides hardware, distribution, and related, noncontent-oriented support and expertise.

Technology

AT&T's Presentation Level Protocol (PLP) for the market test (Phase III).

Chronology of Viewtron Development

Phase I	Research and Planning	1976-1979
Phase II	Concept Trials	1980-1981

Test Size and Dates

The first trial commenced in July 1980 and ended in January 1981. The test included 125 homes with 25 to 30 units rotated approximately once a month. The second trial began in February 1981 and ended in September 1981. There were 79 homes included in this test. The combined 204 households represented 674 individuals.

Participant Selection Criteria

In both trials, participants who demonstrated a favorable attitude towards the concept were selected. The project was designed for success; "if the best case doesn't like it, then the time is not right."

Test Participant Profile

Income

Majority had incomes in excess of $40,000

Education

More than half graduated from college. Almost a third had some post-graduate education.

Other

Participants were described as being considerably more willing to experiment with new products than the general public.

System Characteristics

- Interactive viewdata system using both keyboard and 21-button keypad, delivered via phone lines.
- Viewtron provided all equipment in Phase I.
- Adaptor for participants' TV sets also offered in Phase II.
- Terminal manufactured by AT&T (Western Electric Division).
- 18,000 page database.
- Item search via heirarchical menu-tree and keyword search.

Pricing

There were no charges to participants in the concept trials.

Information Providers

Both local- and national-based information providers participated in the trial, including the Miami Herald, Consumers Union, American Cancer Society, MacMillen Publishing, the New York Times, Dow-Jones and Company, HP Books, AP, Congressional Quarterly, Addison-Wesley, Universal Press Syndicate, Intercontinental Press Syndicate, and CBS Publications.

Advertisers

Advertisers on Viewtron also included firms serving both national and local markets, such as Eastern Airlines, Sears, B. Dalton Booksellers, Grand Union, Southeast Banking Corporation, Official Airline Guide, J.C. Penney, Shell Oil, Spec's Music, Service Merchandise, Cousin's Associates (Realtors), Shell's City Liquors, Master Host, Dinner Service, and Merrill Lynch.

Services

In terms of usage, the respondent noted that "no single service stood out as being overwhelmingly popular. However, a variety of about 14 services seemed to make up the critical mass of services needed for such a (system)." (See "Content")

Some selected findings of the Viewtron Concept Trials (a number of other findings were released in the Viewtron Newsletter dated June 28, 1982):

- 90 percent of users like Viewtron.
- 90 percent of users said that Viewtron improved their ability to obtain information and services.
- Viewtron users said they spend less time with other media when they had Viewtron in their homes--45 percent used television less, and 33 percent used newspapers less.
- Viewtron was ranked as a convenient shopping medium by 83 percent of the households in the trial.
- Nearly 1,000 orders were placed, with 68 percent of all households ordering something.
- Advertising was sought out by viewers. In some cases, as many as 98 percent of the households looked at a single advertiser's database.

Content

Listed below are Viewtron content categories, ranked according to importance by participants in the concept trials:

(1) News
(2) Bulletin board
(3) Local entertainment and events
(4) Food and dining
(5) Education
(6) Consumer information
(7) Shopping
(8) Games and quizzes
(9) Sports
(10) Health and medical information
(11) Travel
(12) Money management
(13) Home
(14) Auto

Project Objectives and Assessments

- o Develop and test an electronic home information system
- o Quantify consumer data
- o Identify promising services
- o Evaluate existing environment and competition
- o Determine social issues
- o Assess business opportunities

To a significant extent, these goals were felt to have been accomplished. Due to the positive test response, Viewtron has elected to move on to Phase III, the market introduction.

Phase III Market Introduction November 1983

Initial Goal

5,000 subscribers

Target Market Profile

"Upscale," with incomes in excess of $35,000. Relatively young, ages 25-49 years.

Location

The three-county (Broward, Dade, and Palm Beach) South Florida market referred to as the Gold Coast. Includes the cities of Miami, Ft. Lauderdale, Boca Raton, West Palm Beach, and Briny Breezes.

Investment

Knight-Ridder expects to have invested $25 million by fall 1983.

System Characteristics

- 0 VideoFinancial Services will provide its gateway transactional service, Applause, for processing retail and financial transactions
- o At least 75,000 pages at the start of service
- o Item search via hierarchical menu-tree and keyword search
- o Delivered over telephone lines

- Terminal will be manufactured and sold by AT&T (American Bell)
- Will use the North American Presentation Level Protocol (NAPLP)

Staff Size

Over 100 persons at market introduction

Pricing

Household. Service pricing to households is expected to be in the $25 per month range, not including transaction costs.

(Note: Sceptre terminals are expected to have an introductory price of $600; however, this price was discounted from $900, which is expected to be the charge to subscribers after the initial introductory period.)

Business. A rate card has been announced for advertising and transactional services. The following information was drawn from the Viewtron Newsletter of March 1, 1983:

- Advertisers may create their own advertisements by purchasing the American Bell frame-creation terminal, or Viewtron will create advertisements for them.
- For advertisers creating their own frames, there is a $15 input fee per frame.
- For Viewtron-designed advertisements, there is a $45 fee per frame, which includes frame creation and inputting.
- Updating frames will be priced at $5 per frame.
- All advertisers will be charged $1 per frame per week for frame storage in the Viewtron system.
- The price for the American Bell frame-creaton terminal is $34,000 (for those wishing to create their own ads).
- All retail sales made through Viewtron will be assessed a fee of 1% per order. All orders will be processed by VideoFinancial Services (see VideoFinancial Services) at the merchants' normal credit processing rates.
- Advertisers generating leads (rather than on-system sales) will be charged $1 per lead.
- Directronic Mail is available. (This service enables advertisers to send personalized commercial messages of any length to individual subscribers. The charge for this service will be $15 per frame per subscriber.)

Information Providers and Advertisers

Viewtron anticipates having "over 100 paying business participants in the form of merchants, banks, and advertisers by the start of the test market." The advertising sales force began "formal" selling in January 1983.

Services

"Services will be dramatically expanded during the commercial start of service. We hope to be doing more interactive and sophisticated things." Viewtron has announced that the 28,000 article Academic American Encyclopedia will be placed on the system. Other content has not been announced.

Objective

"The objective for Phase III of our service will be to determine whether or not the opportunity for a business and an industry exists with Viewtron."

Phase IV	Expansion to other U.S. markets	1985

Plan

Viewtron expects to roll out into other U.S. markets in Phase IV. To date (March 1983), Knight-Ridder has announced joint-venture agreements with newspaper publishers in Boston, Ft. Worth, Kansas City, Baltimore, and Seattle. In addition, Viewtron is scheduled to enter the Knight-Ridder markets of Philadelphia, Detroit, San Jose, Charlotte, and St. Paul.

Joint-venture Arrangements

The joint-venture concept calls for a 75/25 ownership split, with Knight-Ridder as the minority shareholder. Knight-Ridder will provide software, training, consulting for start-up, and the expertise gained throughout Viewtron's development. The majority joint-venture partner will retain ownership over databases and means of production.

Objective

"The objective of Phase IV will be profit maximization."

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Phone Number: (305)674-3323
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1111 Lincoln Road, 7th Floor
Miami Beach, Florida 33139

Viewtron also opened two regional sales offices in New York and Chicago.

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Phone Number: (212)986-1195
Address: Viewdata Corp. of America
Chrysler Building
405 Lexington Ave., 31st Floor
New York, New York 10174

Contact Person: Leonard Reynolds - Midwestern Regional Sales
Phone Number: (312)670-0170
Address: Viewdata Corp. of America
Tribune Building
435 N. Michigan Ave., Suite 2700
Chicago, Illinois 60611

(24) VideoFinancial Services; Bank One, Southeast Banking, Wachovia Corporation, and Security Pacific Corporation

Firm

VideoFinancial Services

Partners

VideoFinancial will be owned by Bank One Corporation of Columbus, Ohio; Southeast Banking Corporation of Miami, Florida; Wachovia Corporation of Winston-Salem, North Carolina; and Security Pacific Corporation of Los Angeles, California.

These four bank holding companies may be joined by as many as 10 additional intermediaries, which would also own equal shares. These firms have not yet been announced.

Numerous other banks will also participate, but they will not hold ownership shares. VideoFinancial will serve as the processing link between these banks and transactions made over videotex systems.

Location

VideoFinancial's headquarters is expected to be located in Columbus, Ohio.

Current Status

As of March 1983, VideoFinancial was not legally formed. VideoFinancial will begin operations in conjunction with the Viewtron (see Viewdata Corporation of America) start-up in fall 1983. (Note: VideoFinancial will also provide gateway processing services for the KEYCOM and Times Mirror videotex systems.)

Activities

VideoFinancial will serve as the processing arm for financial transactions made over Viewtron. All orders/transfers will be processed at the participating merchants' normal credit processing rates. Transaction charges assessed to consumers will be set by the consumers' banks.

VideoFinancial and Viewtron, however, are not exclusively bound to one another. VideoFinancial will be free to offer in-home banking services to other ventures as opportunities emerge. Viewtron will also be able to freely use other banking and processing services for its project.

Services

Banking services performed by VideoFinancial include bill payment processing for goods and services purchased over Viewtron, bill paying for non-Viewtron-related purchases, funds transfers between accounts, account balance inquiries and the like.

VideoFinancial is also expected to develop a business management system that would include such services as cash management and record keeping. This system would be targeted to the small and medium-sized firm not large enough to justify in-house systems and/or staffs to perform such activities.

Investment

Details concerning total expected capitalizaton and contributions made by each partner remain either incomplete or undisclosed.

System Characteristics

VideoFinancial will offer gateway services to videotex systems such as Viewtron. Processing activity will take place at various regional operations centers.

- The software used by VideoFinancial was developed by Southeast Banking and sold to the partnership.

Firm: Bank One Corp.
Contact Person: John Russell
Phone Number: (614)463-5987
Address: 100 E. Broad Street
Columbus, Ohio 43271

(25) Vista; Bell Canada

Firm

Bell Canada

Project

Vista

Other Participants

- Canadian Federal Department of Communications
- Infomart has been contracted to manage the field trial

Technology

Telidon-based viewdata system. (A 1979 pilot test conducted by Bell Canada used a modified Prestel protocol.)

Current Status

The current field trial commenced on May 19, 1981. The originally scheduled completion data of December 1982 was extended until September 1983.

Location

Bell Canada services Ontario and Quebec. The Project Vista test will be held in Toronto, Ontario, and a suburb of Quebec City.

Investment

$8.5 million by Bell Canada and $2.5 million by the Canadian Federal Department of Communications (DOC).

Information/Service Providers

Over 90 at this time, including: Teledirect Ltd. (electronic yellow pages), Le Soleil (newspaper), University of Quebec, Royal Insurance, Eatons (department store), The Bay (department store), the Consumers Association of

Canada, travel agents, TV Ontario, Holiday Inn, several banks, and government departments.

Deletion: Shoprite has withdrawn from Vista.

Test Size

Effective September 1982, 345 terminals were installed. Eventually, the project is expected to place approximately 400 terminals--100 in a Quebec City suburb and 300 in Toronto. The Toronto portion of the experiment incorporated a stratified sampling technique with participants selected on the basis of income, education, and family size.

Participant Profile

Special group. Participants sent Bell unsolicited requests for user terminals. From this group, participants were randomly selected.

Sample criteria. Participants include representatives from low- to high-income groups, varying family structures and points in the family life cycle, and different ages.

System Characteristics

- Interactive, using regular, switched telephone network and a 24-button keypad.
- Equipment manufactured by Northern Telecom Ltd. and Bell Northern Research and loaned to Bell by the DOC.
- All necessary user-controlled equipment supplied by Project Vista.
- Graphics and text provided by information providers operating IPS machines in various centers (at no charge) or via page-creation service companies, such as Infomart and Tele-Direct.
- Vista currently has over 60,000 pages of information (March, 1983).

Pricing

- No charge to project participants; one of the goals of the project is to determine this information.
- The DOC provided Bell Canada with 25 of 28 information provider terminals.

Roles

- The Department of Communication provided computers, terminals, and basic software for the project and serves essentially as a promoter/developer of the Telidon Technology.
- Bell Canada originally served as the common carrier, developer, and system operator. Effective April 1, 1982, Bell Canada subcontracted the management of the field trial to Infomart.

Focus

Broad-based approach focusing on services for mass consumer markets.

Services

- Initially, the system will focus on information retrieval exclusively. Information providers include government services, retail information, travel schedules, insurance facts, games, yellow pages directory (by Bell's subsidiary Tele-Direct), education, job openings, and so on.
- Within the next year, banking services and electronic messaging will probably be added.
- The system and TV are operated by remote control. The keypad sends signals to the terminal via an infrared beam, both to call up pages desired by the user and to switch back and forth from Vista to regular TV programming via a single key press. (The terminal has a built-in autodialer, modem, and automatic sign-on/self-identification to the database.)
- Effective September 1982, a teleshopping feature was added. The first information provider to offer the service was Consumer Distributing.

Goals

- Bell Canada's goals are to determine an optimal technical system, to test the technology in a telephone network environment, and to determine user reaction and desires. Videotex goals will be established based on trial results. They could range from "abandon, move on to a full market trial, or pursue immediate business opportunity."
- Department of Communication's goals are to promote/experiment with the Telidon technology and turn it over to industry.

Purpose

Purpose of the project is to "generate research results, whether they are good or bad." Specifically, the research will provide Bell Canada and information providers with the value of the system and individual services to various consumer markets.

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Ottawa, Ontario K1G 3J4

(26) Videotex/America; Infomart and Times Mirror

Firm

Videotex/America (V/A)

Venture Partners

Videotex/America is a 50/50 joint venture between Infomart and Times Mirror. (See Infomart and Times Mirror.)

Role

Videotex/America is the exclusive marketing agent in the United States for the Telidon technology. V/A was formed in January 1982 and serves as the replacement for Infomart's Telidon Videotex Systems, Inc.

The Local Market Affiliate Program

Description

The Local Market Affiliate Program is designed to familiarize newspaper publishers with the business opportunities of Videotex. Affiliates are provided with the knowledge gained from the Times Mirror Videotex Field Trial, as well as with the combined experience of the two venture partners.

Goal

A primary goal is to use the program as a step towards market penetration and expansion. It is hoped that the affiliates will eventually become full local partners with Videotex/America.

Affiliates

As of February 1983, the following publishers have signed agreements with V/A to explore Videotex opportunities in their market areas.

Phoenix Newspapers, Inc., publisher of the Arizona Republic/Phoenix Gazette, in June 1982; Florida Publishing Company, publisher of the Jacksonville Journal and Florida Times-Mirror, in October 1982; and Chronicle Publishing, publisher of the San Francisco Chronicle, in February 1983.

Other Activities

V/A has joined with ADP, Inc. (see The Ridgewood Videotex Field Trial) in the development and marketing of a test-oriented videotex system targeted to local banks. The local banks will test market the system in their market areas. A number of local banks have announced their participation in the test, including Banc Ohio. It is expected that approximately 2,000 households will participate in the test, with each participating bank serving between 50 and 200 households.

V/A will contribute informational databases, and ADP will provide the banking software. If successful, the test may provide ADP and V/A with a core network of local system operators, which should position the sponsors well in the emerging marketplace.

Related Information

See Infomart and Times Mirror

Contact Person: Frank Washington
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2375 Morse Avenue
Irvine, California 92714

(27) Other Activity

Here is a list of a few of the other projects and firms actively involved in the North American videotex arena.

- The Bank of Montreal has announced a 2000 terminal trial to take place in 1983.

- Empire of America, FSA has announced the formation of an in-home banking system. The system is unique in that it offers service to personal computer owners or else will install an NAPLP-compatible, Telidon-based terminal in a customer's home. The latter system will include high-quality graphics. An in-home shopping system is expected to be added to the existing array of in-home banking services by the end of 1983. Empire's subsidiary, Macrotel Inc., developed the system in collaboration with the Genesys Group, Inc. Empire, through Macrotel, will also market the banking system to other banks for about $200,000.

- A number of other financial intermediaries have been or will be conducting tests. Included are First Interstate Bank of California (200-terminal test); a consortium of banks in the ADP, Inc. and Videotex/American project called Home Banking Interchange; Manufacturers Hanover Trust; National Bank of Detroit; and a number of other regional banks, credit unions, and financial services firms. A number of as yet undisclosed banks will also join VideoFinancial Services in its venture.

- In the agricultural arena, systems such as Agri-Star, Instant Up-date, and Ag-Net are available to farm interests.

- Numerous newspaper publishers are tentatively aligning themselves with the Viewtron or Videotex/America ventures. Further, smaller-scale efforts, such as Viacom and Startext, are developing.

- Retailers, such as J.C. Penney and Federated Department Stores, have taken ownership positions in videotex systems. (See Firsthand and Comp-U-Card.)

- Communications companies, including Warner/Amex, Continental Telephone, GT&E, and countless cable systems are also developing or offering videotex systems.

- In the teletext area, NBC, Direct Vision (KPIX in San Francisco - Group W), and KCET-TV (public television in Los Angeles) are also either actively involved in commercially offered systems or are conducting tests.

Summary

In sum, a vast number of players from numerous industries including publishing, retailing, agriculture, banking, other financial intermediaries, information processing, broadcasting and communications have taken positions in videotex. The industry structure is beginning to take shape, and future competitors are starting to emerge. The authors trust this paper has provided the reader with an understanding of the activity taking place in this dynamic, fledgling industry.